

PROPOSED RESIDENTIAL DEVELOPMENT IN KILNAHUE, GOREY, CO WEXFORD

LANDSCAPE & GREEN INFRASTRUCTURE REPORT

DECEMBER 2025



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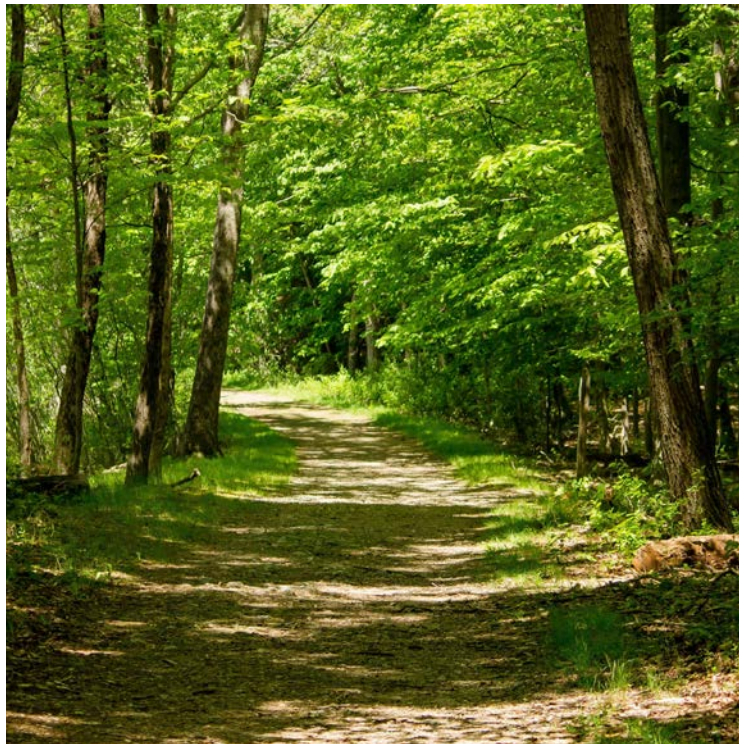
01 Introduction to proposed landscape project

This report presents a comprehensive landscape design strategy aimed at enhancing the site's environmental, aesthetic, and functional qualities. Through a detailed analysis of the existing conditions, ecological considerations, and user experience, the proposed landscape approach seeks to create a harmonious and sustainable environment that integrates seamlessly with its surroundings.

The design framework is guided by key principles of sustainability, biodiversity enhancement, and placemaking, ensuring that the landscape not only serves practical needs but also fosters a strong connection between people and nature. By incorporating native planting, innovative water management solutions, and thoughtfully designed open spaces, the proposal aspires to enrich both the ecological and social fabric of the site.

This document outlines the design vision, objectives, and methodology, providing a structured approach to achieving a resilient and engaging landscape that enhances the overall character of the development.





02 LANDSCAPE ANALYSIS

02.1 Site Context

The proposed residential landscape project in Kilnahue, Gorey, Wexford, is situated in an open space bordered by agricultural fields to the north, south, and west. To the east, a linear strip of housing development along the R725 connects the site to Gorey's main street and key local amenities, including schools such as Gorey Educate Together National School, Gaelscoil Moshíológ, and St. Joseph's Primary School. The proximity to Pearson's Brook and surrounding residential areas offers opportunities for integration with the existing community while maintaining the rural character of the landscape. The site's location provides a balance between access to essential services and a natural, open setting, making it well-suited for a thoughtfully designed residential environment. Consideration of local biodiversity, drainage, and pedestrian connectivity will be essential in shaping a sustainable and harmonious development.





01 Proximity to Gorey Educate Together National School

02.2 Microclimate

Gorey experiences a temperate maritime climate, characterized by mild temperatures, moderate rainfall, and prevailing southwesterly winds. The site's microclimate is influenced by its open, agricultural surroundings, resulting in exposure to these prevailing winds and minimal shelter from adjacent developments. Its relatively flat terrain allows for good solar access, particularly from the south, which can be optimized in the landscape design. However, the openness also makes the site susceptible to temperature fluctuations and wind chill, necessitating strategic planting and site layout to create sheltered outdoor spaces and improve comfort for future residents.

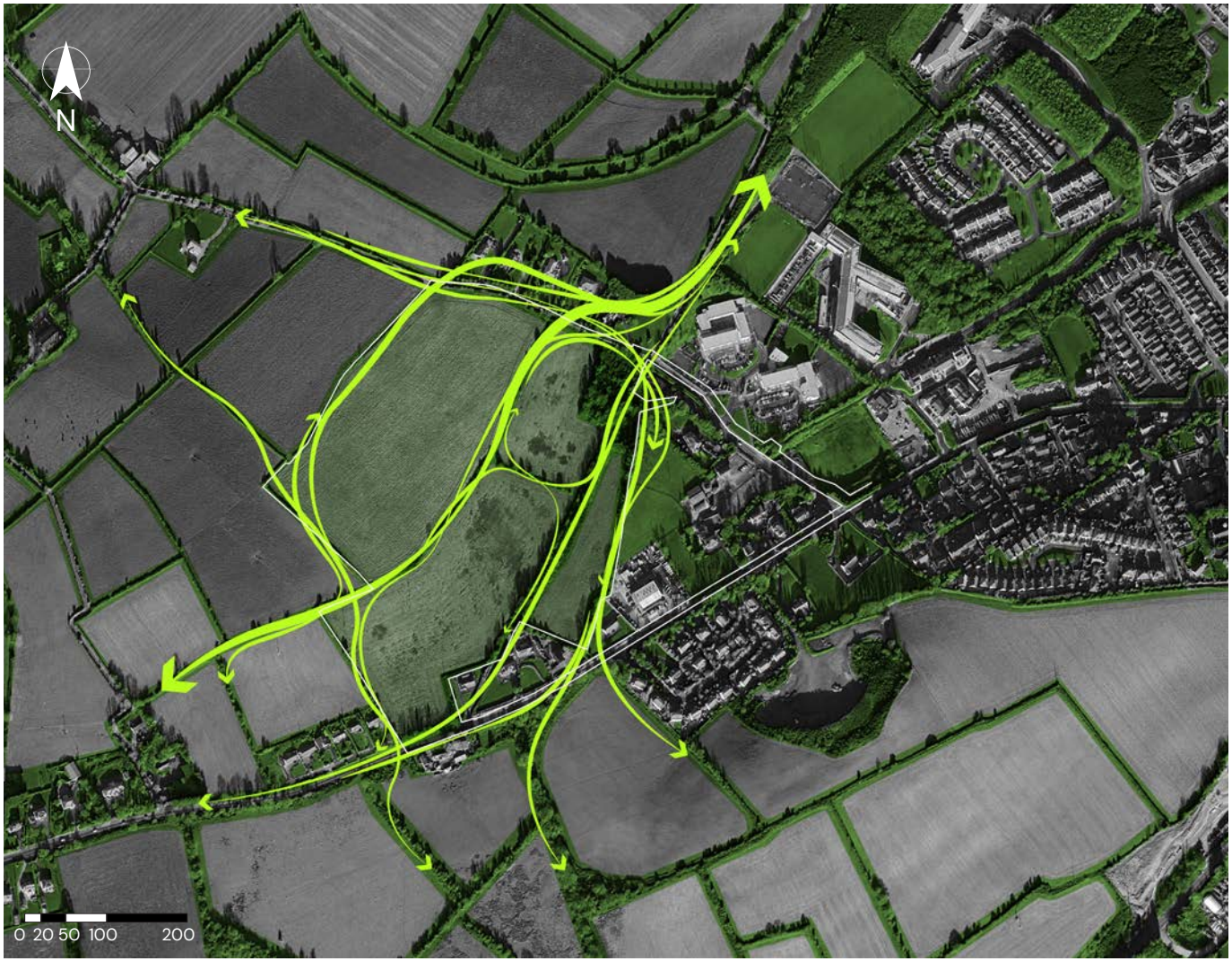




01 Wide, open terrain

02.3 Ecological Links

The site is part of a broader ecological network, with hedgerow habitats playing a crucial role in connecting adjacent agricultural land parcels. These hedgerows provide essential corridors for wildlife, supporting local biodiversity by offering food, shelter, and nesting sites for birds, small mammals, and pollinators. They also contribute to ecological stability by acting as windbreaks, reducing soil erosion, and enhancing overall habitat connectivity. Maintaining and enhancing these hedgerows within the landscape design will be key to preserving local biodiversity, ensuring the site remains integrated with its natural surroundings while promoting sustainable development.



02.4 Existing Vegetation

The presence of adjacent farmland influences the site's vegetation, with existing hedgerows and boundary planting playing a key role in defining field divisions and supporting biodiversity. These hedgerows serve as ecological corridors, but their proximity to active agricultural land means they may be subject to management practices such as trimming, pesticide drift, or grazing pressure, which could impact their structure and species diversity. Retaining and reinforcing these vegetative boundaries can provide both environmental benefits and a natural buffer between residential and agricultural land uses.





01 Open space with diverse hedgerow



02 Substantive agricultural adjacencies with hedgerows

02.4 Existing Vegetation

The site features a dense, overgrown wooded area in the northeast corner, which provides a valuable habitat for wildlife. This area contributes to local biodiversity, offering shelter and foraging opportunities for birds, small mammals, and invertebrates. Extending from this woodland, a mature hedgerow runs southward, acting as an important ecological corridor that connects existing vegetative. The design intent seeks to strengthen these existing ecological corridors by enhancing and planting up the hedgerow habitats, ensuring continued biodiversity support and improving habitat connectivity throughout the site. Thus design will promote a more resilient and sustainable landscape that integrates harmoniously with the surrounding agricultural environment.





01 Existing hedge to adjacent dwelling



02 Natural hedgerow looking towards wooded area

02.5 Existing Topography

The topography of the site features a noticeable elevation change of approximately 30 meters, sloping from the northwest to the southeast. Unlike the predominantly flat surrounding agricultural fields, this varied terrain introduces opportunities for dynamic landscape design and views. The gradient allows for natural drainage patterns, improved water runoff management, and the potential for optimizing solar access across different elevations. This sloped topography also supports the creation of distinct zones while maintaining good connectivity throughout the site and to adjacent areas.





01 Site topography

02.6 Connectivity

The site is planned to ensure seamless connectivity, linking key areas through an integrated transport network. With a focus on walking and cycling, it promotes active mobility while maintaining convenient access to essential amenities. A potential cycling laneway inside the site serves to enhances connectivity, while well-designed links to the broader community foster an inviting and inclusive environment for everyone.





01 Existing road along boundary



03 LANDSCAPE STRATEGIES

03.1 Regenerative Landscapes

Regenerative Landscapes: Principles and Application to the Proposed Development

1. INTRODUCTION

The concept of regenerative landscapes goes beyond conventional sustainability by actively restoring and enhancing ecological systems while supporting human habitation. In the context of this project, the existing site comprises green fields and hedgerows—an important ecological asset that will be carefully integrated into the new residential development. By applying regenerative design principles, the landscape strategy aims to improve biodiversity, soil health, water management, and overall ecosystem resilience. This approach will not only mitigate the environmental impact of construction but also create a long-term positive contribution to the local landscape and community.



2. UNDERSTANDING REGENERATIVE LANDSCAPES

Regenerative landscapes are designed to restore and enhance natural processes rather than simply minimizing harm. Key principles include:

Biodiversity Enhancement – Supporting native flora and fauna to create self-sustaining ecosystems.

Soil Regeneration – Improving soil structure, organic matter, and microbial health through thoughtful planting and management.
Water Resilience – Maximizing natural infiltration, reducing runoff, and improving water quality.

Climate Adaptation – Designing for resilience against temperature extremes, flooding, and drought.

Community Connection – Creating spaces that foster a connection between people and nature, improving health and well-being.



These principles will guide the landscape strategy for the proposed development, ensuring the transformation from open grassland to residential use enhances the ecological value of the site.

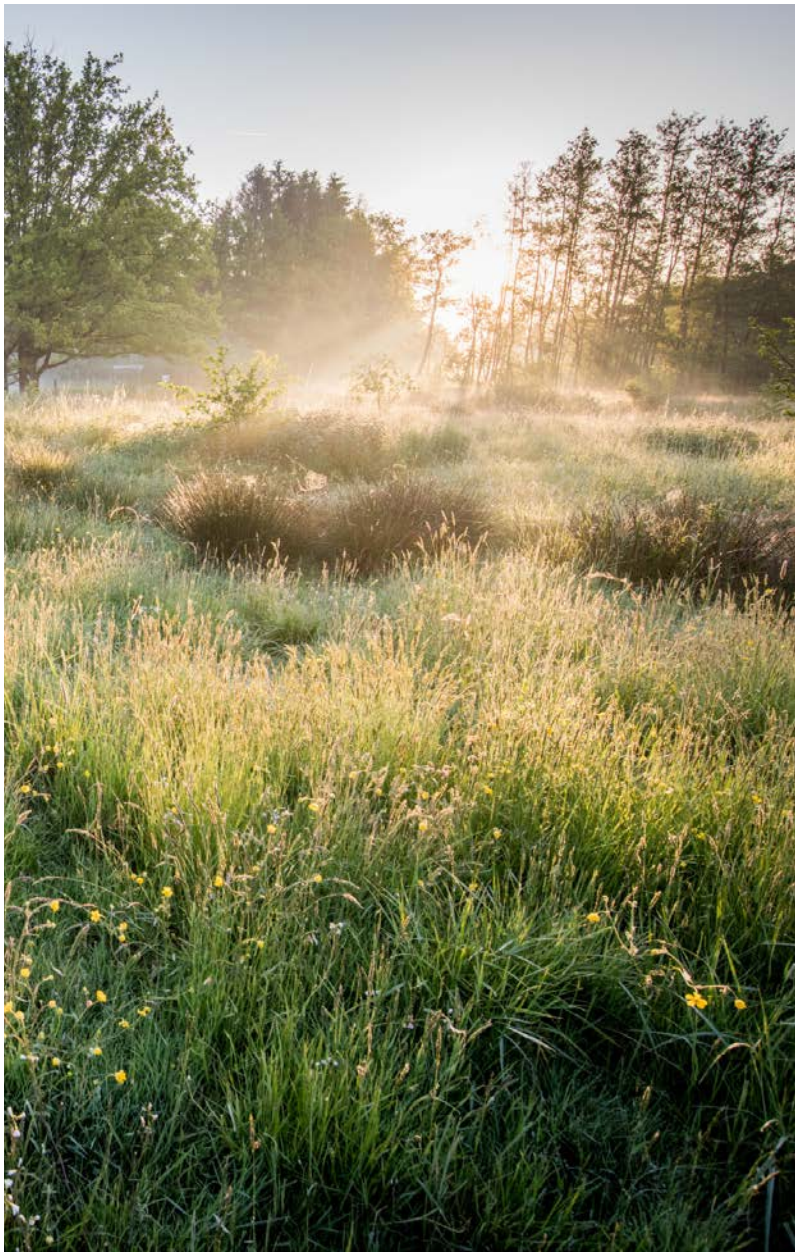
It is not enough just to protect the hedgerows from further loss; their quality also needs to be improved through sensitive and effective management.

3. EXISTING LANDSCAPE & ECOLOGICAL VALUE

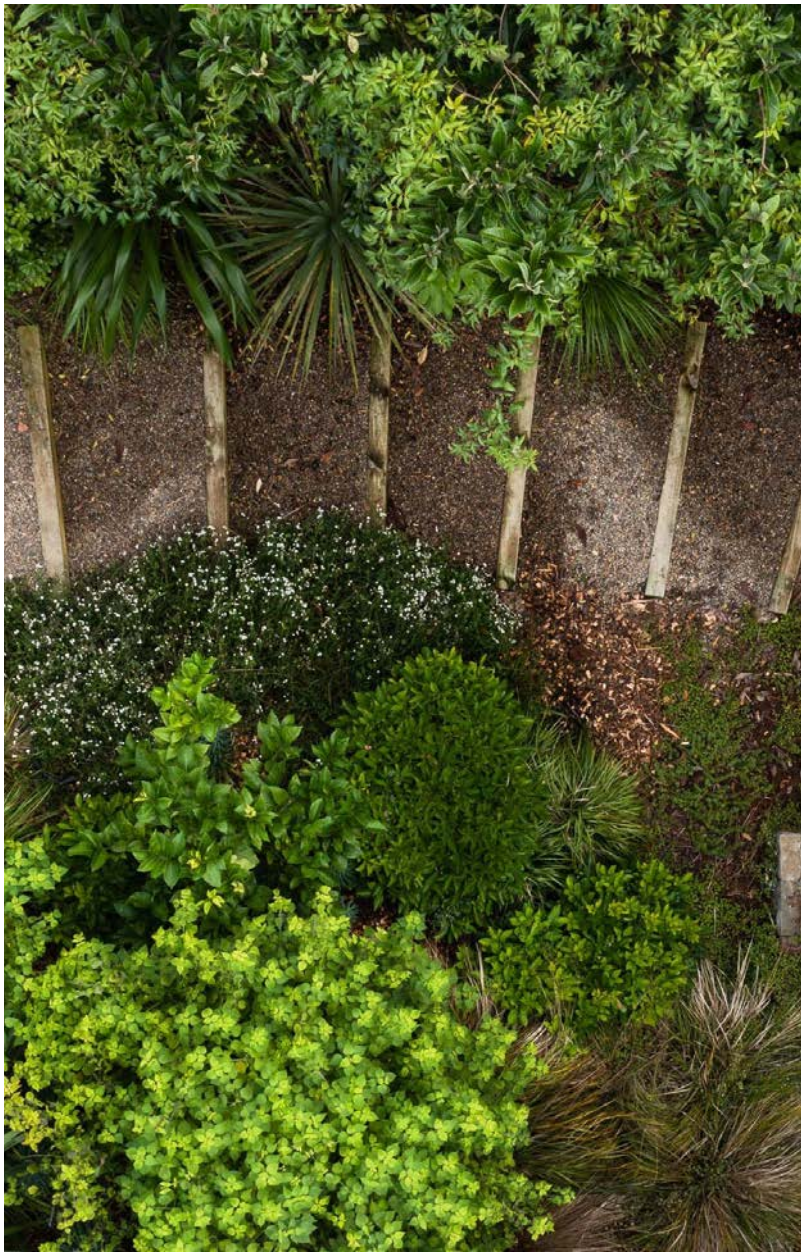
The site is currently characterized by:

Open grass fields with limited plant diversity, primarily composed of agricultural grasses.
Established hedgerows, which serve as vital ecological corridors for birds, insects, and small mammals.
Soils that have been historically managed for pasture, with potential for improved organic content and microbiological activity.

Hedgerows are particularly important as they provide habitat, shelter, and food sources for wildlife while acting as natural windbreaks and water regulators. Recognizing their value, the design strategy will retain, enhance, and expand these hedgerows as part of the development.



03.1 Regenerative Landscapes



4. REGENERATIVE LANDSCAPE STRATEGY

The following strategies will be implemented to ensure the landscape actively contributes to ecological regeneration:

4.1 Hedgerow Integration and Enhancement

Existing hedgerows will be retained and strengthened through the planting of additional native species such as hawthorn, blackthorn, hazel, and alder.

New planting will extend the existing network to improve connectivity between green spaces.

Selective gapping-up (filling in sparse sections) will ensure continuous shelter and habitat function.

A buffer zone of diverse groundcover and wildflower meadows will surround hedgerows to support pollinators.



4.2 Soil Regeneration and Planting Design

Minimizing soil compaction during construction to maintain soil health and permeability.

Using biochar, compost, and cover crops to improve soil fertility and water retention.

Introducing diverse planting layers, including trees, shrubs, and groundcovers, to increase soil organic matter and microbial activity.



4.3 Water Management & Climate Resilience

Implementing sustainable drainage systems (SuDS) such as swales, rain gardens, and permeable surfaces to reduce runoff.

Designing planting areas that retain water and increase infiltration, reducing flood risks.

Using native, drought-resistant species to create a low-maintenance, climate-adaptive landscape.

4.4 Biodiversity & Habitat Creation

Planting a mosaic of native species to attract birds, bees, and butterflies.

Integrating bat and bird boxes within hedgerows and tree lines.

Creating wildlife corridors that connect the development to surrounding green areas.

Incorporating pollinator-friendly meadows in open spaces and along pathways.

5. LONG-TERM MANAGEMENT & COMMUNITY INVOLVEMENT

A successful regenerative landscape requires ongoing stewardship. Strategies include:

Encouraging resident participation in community gardening and biodiversity monitoring.

Establishing a maintenance plan that prioritizes regenerative practices such as seasonal hedgerow trimming and soil enrichment.

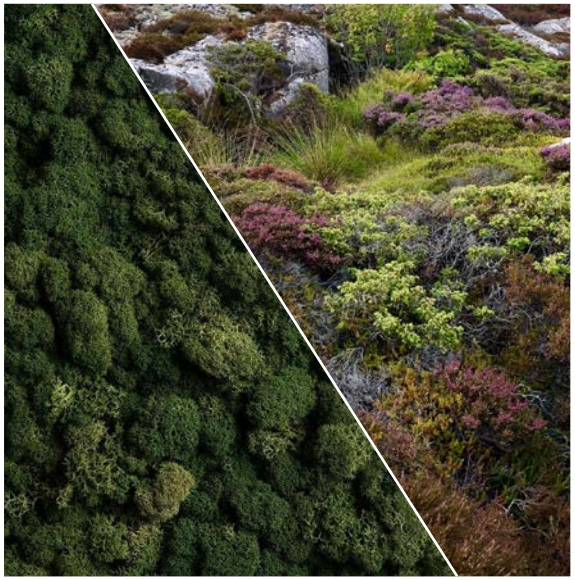
Partnering with local ecological groups to monitor biodiversity improvements over time.

6. CONCLUSION

By integrating regenerative design principles into the landscape strategy, this development will not only preserve but enhance the ecological integrity of the site. Retained hedgerows will be strengthened, soils will be revitalized, and new habitats will be established to support local biodiversity.

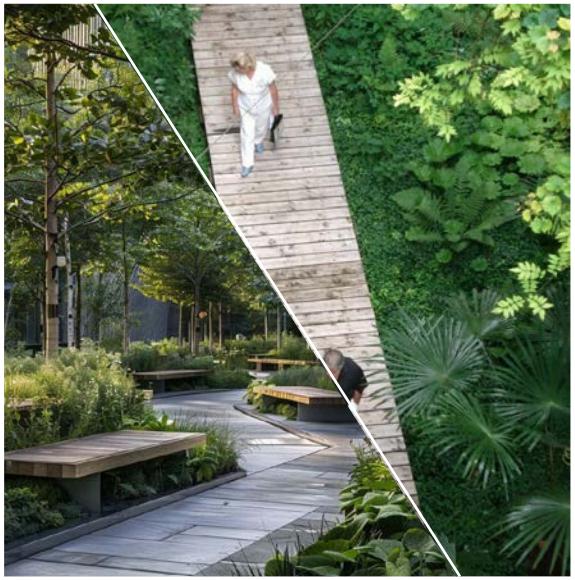
This approach ensures that the landscape becomes an asset for both residents and the environment—creating a resilient, thriving ecosystem that will continue to regenerate for generations to come.

03.2 Landscape Vision



ECOLOGY & BIODIVERSITY

The protection and enhancement of the site's natural features will define the planting design and sense of place. Native tree species and pollinator-friendly plants will be introduced, with ongoing maintenance to ensure a continuous supply of flowering plants during the shoulder months, supporting year-round biodiversity.



PEDESTRIAN CONNECTIVITY

The design increases permeability across the site, enhancing connections from north to south and east to west by providing public access at key existing links. The pedestrian-oriented layout promotes walking and cycling, with amenities included to support these sustainable transportation options.



COMMUNITY OPEN SPACE

The design prioritizes the creation of multifunctional open spaces that are accessible to all, fostering inclusivity and engagement for the entire community. These spaces will be designed to immerse residents in nature, with natural play for children, as well as quiet spots for relaxation. Spaces for social interaction, recreation, and contemplation promote well-being, encourage outdoor activity, and strengthen community connections.

03.3 Ecological Connectivity

Ecological First Principles

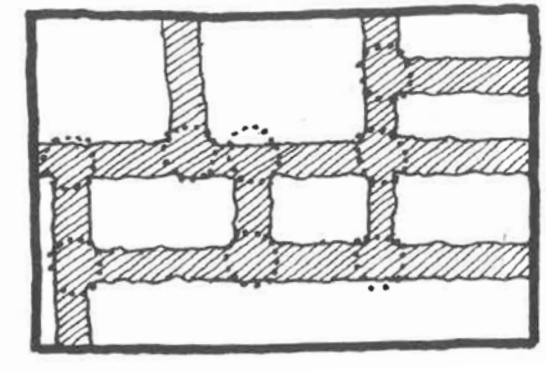
Linking open spaces throughout the site is a key design principle, aimed at facilitating wildlife movement and ensuring a seamless connection between habitats. This approach not only supports local biodiversity by providing safe corridors for species to travel, but also integrates the site into the broader ecological network, enhancing its ecological resilience and contributing to the health of surrounding natural areas.



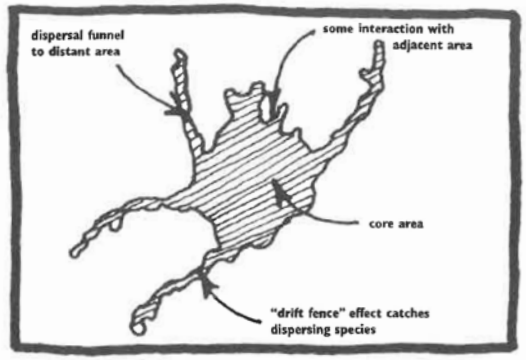




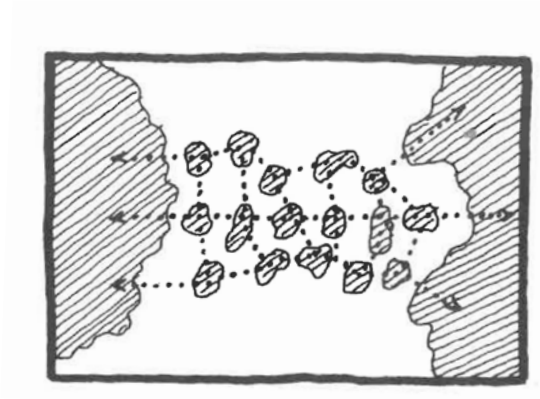




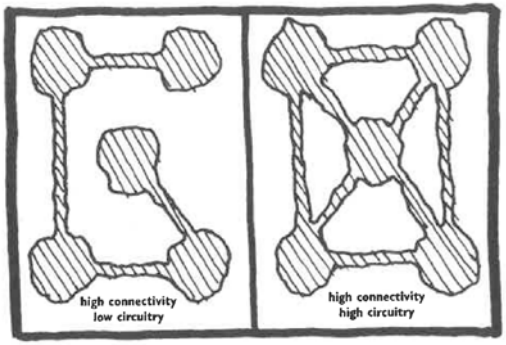
Intersection Effect



Ecologically “optimum” Patch Shape



Cluster of Stepping Stones



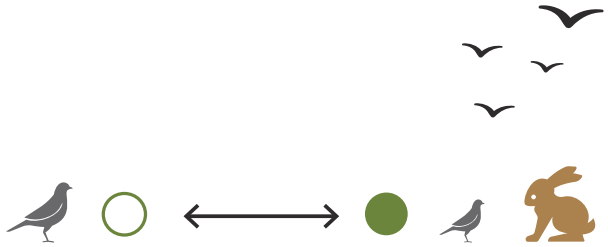
Network Connectivity & Circuitry

03.3 Ecological Connectivity



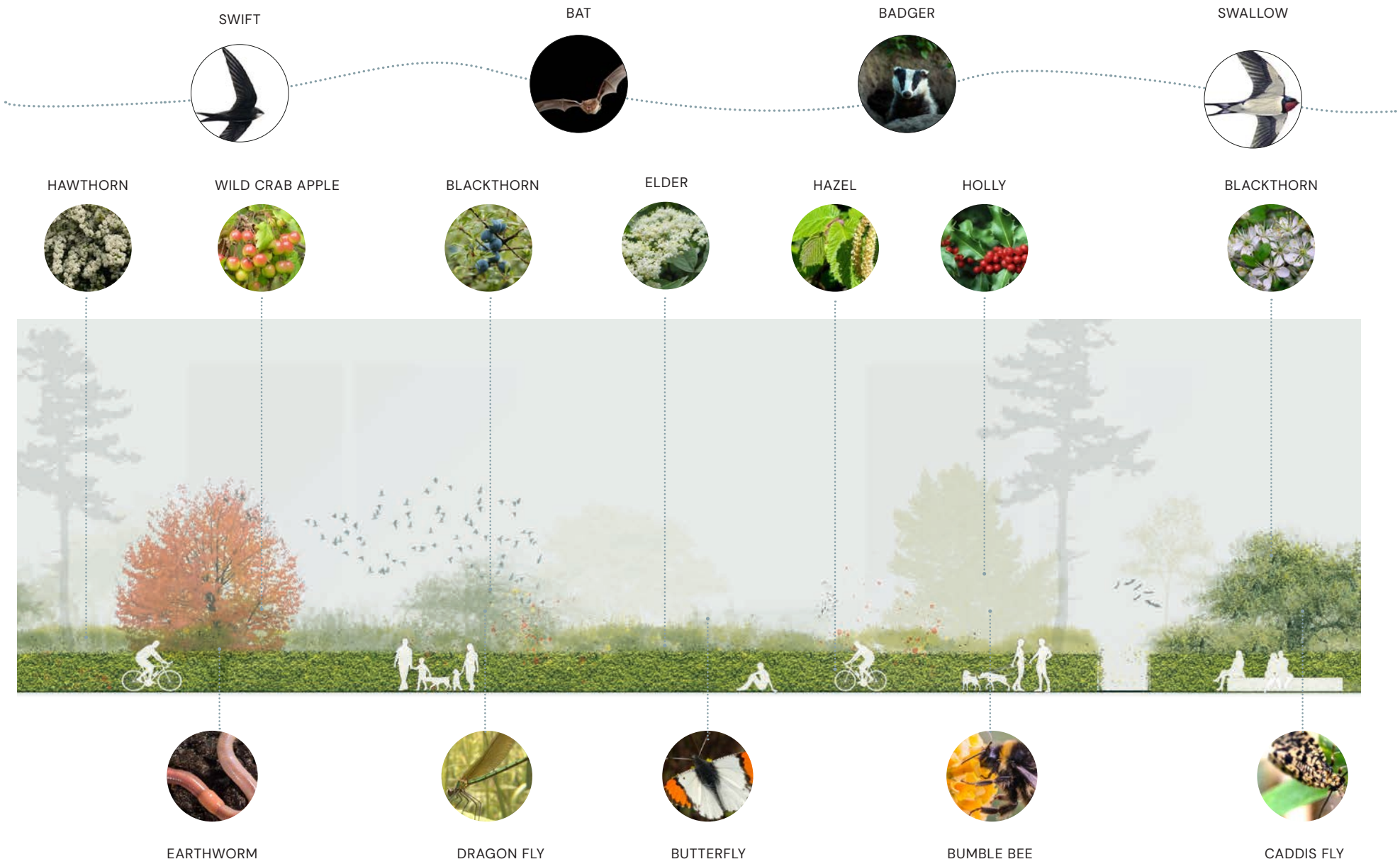
Preserving ecologies through strengthening existing green connections

The continuity of the hedgerows on the site plays a vital role in maintaining ecological connectivity, supporting wildlife movement, and enhancing biodiversity. By preserving and extending these natural corridors, the site provides critical habitats for various species, while offering residents a unique opportunity to engage with nature.





03.4 Ecological Community



03.5 Green Strategy- Tree plan



The project significantly increases tree coverage to enhance the landscape and environmental quality. A key focus is carbon sequestration, with green spaces strategically designed to capture carbon, mitigate urban heat effects, and improve air quality, contributing to a healthier and more resilient environment.



Legend:

- Existing trees to be retained
- Existing trees to be removed
- Proposed trees

Species proposed:

Quercus robur
Pinus sylvestris
Tilia cordata
Sorbus aucuparia
Betula Pendula
Corylus avellana

03.6 Hedgerow Treatment



Existing hedgerows will be carefully assessed, with key sections retained to preserve ecological value. Selective removals will allow for improved connectivity and new native planting to enhance biodiversity and site resilience, whilst also facilitating appropriate development.

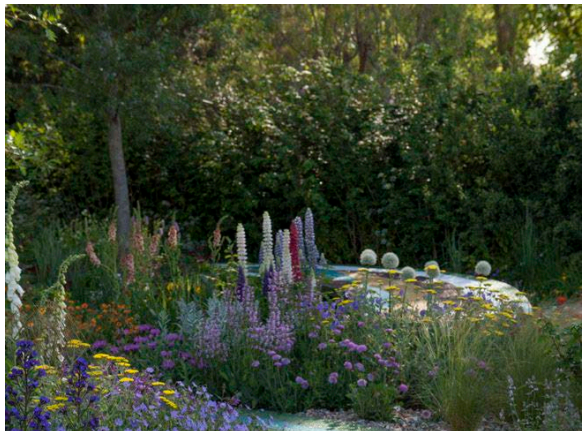
Legend:

- Existing Hedgerow to be retained
- Existing Hedgerow to be trimmed
- Existing Hedgerow to be removed

03.7 Net Biodiversity Gain



The project prioritizes net biodiversity gain through carefully designed planting schemes that support native pollinators and strengthen local ecosystems. A diverse mix of native species ensures year-round habitat availability, enhances ecological resilience, and contributes to a thriving natural environment.



Legend:

- Meadow and pollinator friendly planting
- Existing trees to be retained
- Proposed trees Tot no. 1734
- Existing Hedgerow to be retained

03.8 Pedestrian Oriented Design

The landscape design prioritizes pedestrians, ensuring comfortable and accessible movement between the residential developments, commercial spaces, green spaces and the central woodland linear park. A network of well-defined pathways creates safe, inviting routes that enhance connectivity and encourage active travel.







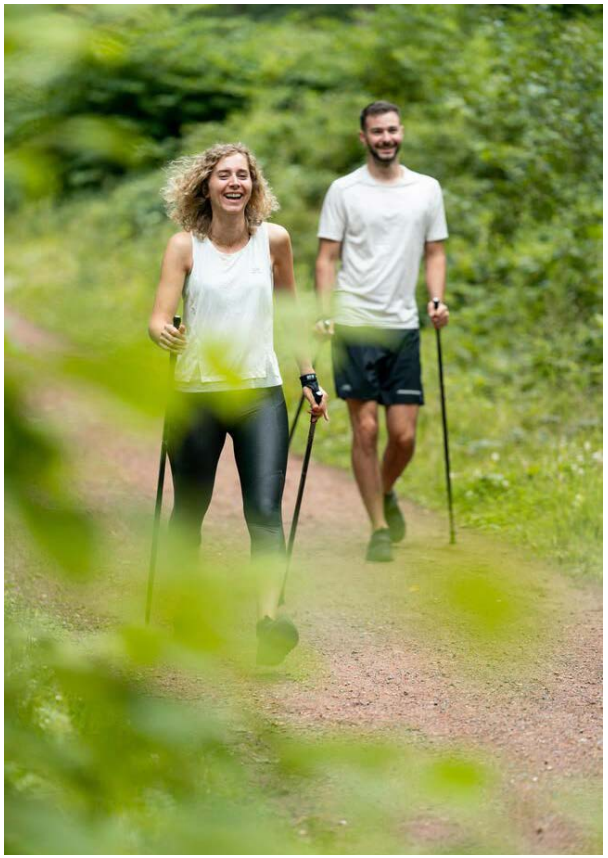


03.9 Open Space Linkage



Green Spaces: Accessible, Connected, and Inclusive Landscapes

A thoughtfully designed network of green spaces connects the site and enhances its character- it strengthens community identity, boosts environmental sustainability, and ensures accessibility for everyone. The linkage between open spaces and the woodland park creates a continuous, harmonious landscape that encourages outdoor recreation and a deeper connection with nature.



03.10 Open Space Quantum



The open space quantum is carefully balanced to provide functional and accessible green areas for residents, workers, and visitors. A mix of public and semi-private spaces, such as landscaped plazas, pocket parks, and green corridors, are integrated to enhance biodiversity, support recreation, and promote social interaction. The quantum of open space aligns with local planning guidelines, ensuring sufficient provision for ecological benefits, stormwater management, and overall well-being in an urban setting.

1.732ha of useable open space is provided in the net developable area.

Legend:

- Parkland - Total M2: 27877
- Public open space - Total M2: 17319
- Communal open space - Total M2: 876

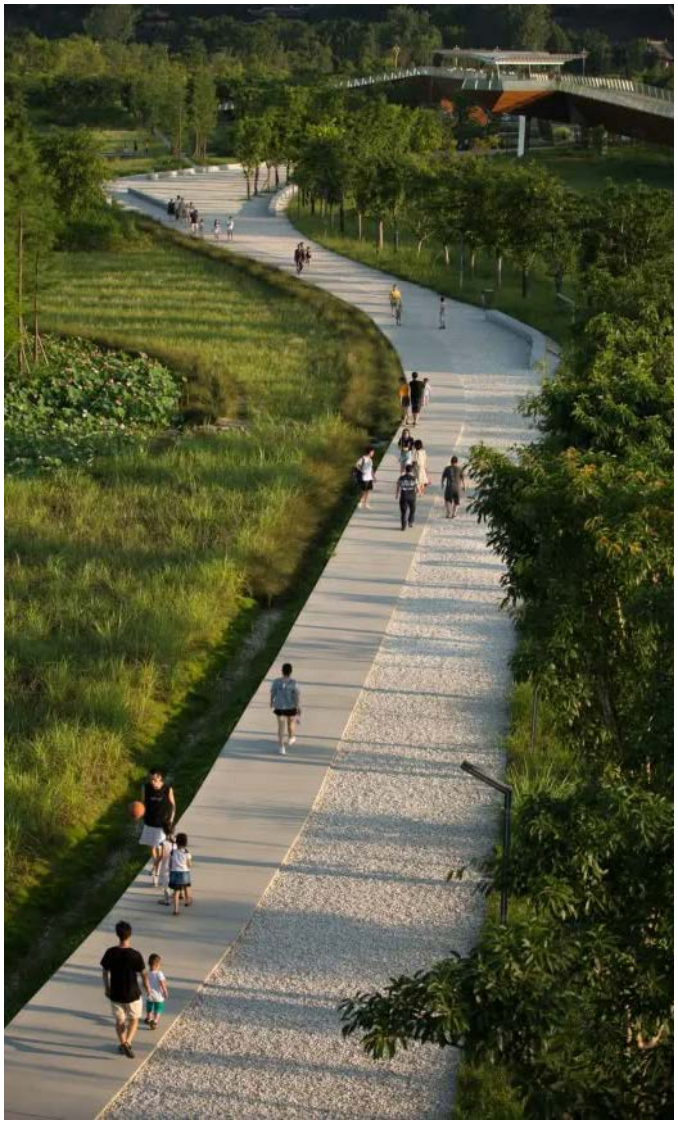
03.11 Cycle and Pedestrian Links



A network of pedestrian links ensures safe and convenient access throughout the development, connecting residential areas to green spaces and community amenities. An existing path running through the site will be repurposed as a greenway connection, offering an extended route for walking and cycling. This greenway encourages active travel while enhancing connectivity with the surrounding landscape. These pathways promote a seamless and sustainable movement experience, integrating nature into everyday journeys.







Reference Images

03.12 Greenway- Leveraging Existing Green Infrastructure

FOLLY PEEPING OVER HEDGE ROW



SEATING OPPORTUNITIES ON EDGE TO ENCOURAGE INTERACTIONS



EXERCISE STATION



PEDESTRIAN ROUTE THROUGH HEDGE WITH TREE CANOPY RETAINED TO CREATE CONNECTIONS

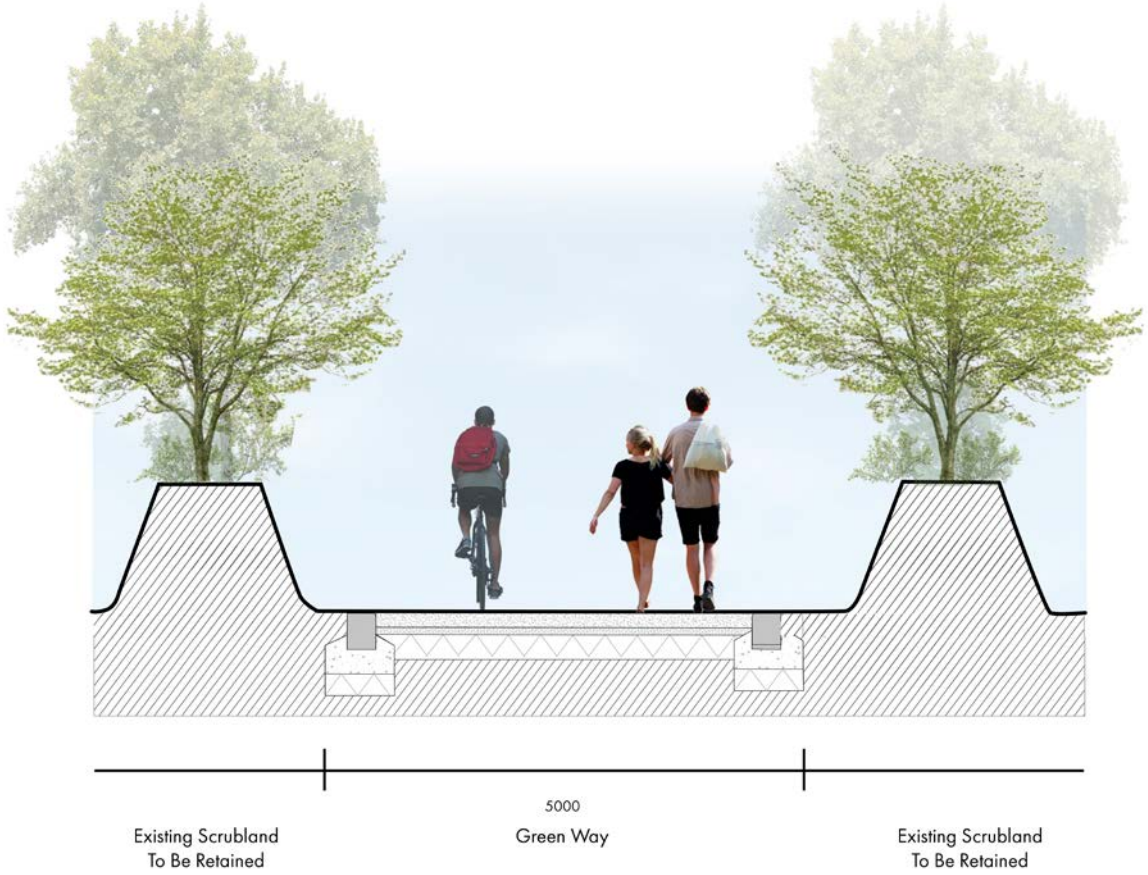


RETAINED + ENHANCED HEDGEROW





03.12 Greenway









The greenway's infrastructure consists of a combination of dedicated walking and cycling paths, thoughtfully planned to optimize safety and ease of use. The pathway is typically constructed from durable, environmentally-friendly materials, such as recycled asphalt or permeable surfaces that minimize the impact on the natural environment. It is engineered to accommodate both pedestrian and cycle traffic simultaneously, ensuring efficient and fluid movement

03.13 Connectivity



The layout ensures clear pedestrian and cyclist connectivity through a network of well-defined paths and trails. These routes provide direct access between residential areas, open spaces, playgrounds, and community facilities, making movement easy and efficient.



Legend:

- Active Travel Route
- Primary Pedestrian Links
- Secondary Pedestrian Links

03.14 Landscape Activities

The project aims to establish a vibrant, interconnected network of community spaces that encourage social engagement, active play, and wellness. Designed to be inclusive and multifunctional, these areas will support natural play, fitness, and gathering spaces, enriching residents' daily lives while thoughtfully integrating existing site features and repurposing natural materials to create a sustainable and engaging landscape.



Community Social Space



Activated Natural Play



Exercise

03.15 Activity Programme



The development features a variety of playgrounds designed to offer engaging and inclusive play opportunities for children of all ages. Strategically located throughout the site, these spaces ensure accessibility for all residents. Key components include:

- Natural Play Areas: Integrating the existing landscape to create interactive, nature-based play zones.
- Teen Spaces: Dedicated areas with multi-use games areas (MUGAs) and skateparks to cater to older children and teenagers.
- Community Hubs: Integrated facilities combining playgrounds, sports fields, and event spaces to encourage social interaction and community engagement.

Legend:

- Kick-about lawn
- Play along the way
- Exercise station
- Designated play
- Community hub



Natural textures and materials

03.16 Play Strategy



The proposed playgrounds are designed to be accessible, inclusive, and multifunctional, aligning with best practices in urban planning and landscape architecture. Key features of the playgrounds include:

Accessibility

- Strategically located within walking distance of most residences, ensuring compliance with Fingal County Council Draft Recreation and Amenity Policy standards.
- Integrated into a network of pedestrian and cycle routes, seamlessly connecting to public open spaces, community amenities, and green infrastructure.
- Legible, inviting entrances enhance safety and encourage frequent use by all residents.

Network Creation

- Playgrounds serve as key nodes within a cohesive green infrastructure, linking local greenspaces to larger ecological and recreational corridors.
- Thoughtful design supports wildlife corridors and greenway extensions, integrating play areas with the surrounding landscape.

Quantity and Quality

- Playgrounds provide proportional public open space, meeting community recreational needs while preserving natural features and supporting biodiversity.
- Additional open space enhances heritage and landscape value while meeting conservation requirements.

Health and Wellbeing

- Located along active travel routes to promote walking, cycling, and jogging for healthier lifestyles.
- Designed for all ages, with play equipment for toddlers, children, and teens, along with seating and passive spaces for adults.
- Universally accessible amenities foster inclusivity, social interaction, and mental well-being.

03.16 Play Strategy









Multifunctionality and Flexibility

- Play areas are designed to be multifunctional and adaptable, offering year-round opportunities for active and passive recreation. Features such as open lawns for free play, nature-inspired climbing structures, and event spaces ensure that the playgrounds can serve a diverse range of uses and users.
- Opportunities for community involvement, such as spaces for food growing or small events, further enhance the sense of belonging and identity.

Natural Surveillance and Sunlight

- All playgrounds are well-overlooked by surrounding residences, enhancing safety through natural surveillance while fostering a sense of security and community ownership.
- The layout optimizes sunlight exposure to encourage year-round outdoor use and maximize comfort for users.
- The proposed playgrounds prioritize inclusivity, environmental sustainability, and the creation of vibrant community spaces, setting a benchmark for well-integrated and user-centered design.

03.17 SUDS - Tree Pits

Tree Pits
Typically, street and footpath surfaces shall be impermeable surfacing, with finishes of bitumen, stone pavers, concrete.
To provide interception storage of surface water from these impermeable surfaces, they shall be drained to Bio-retention tree pits via a series of road gulleys and linear drains.



A

TYPE A:
Covered tree pit with connecting trench. – Typical Soil Volume = 6m3 excluding trench and 8.5m3 including trench – Drained Area typically 30-50m2 per individual tree pit



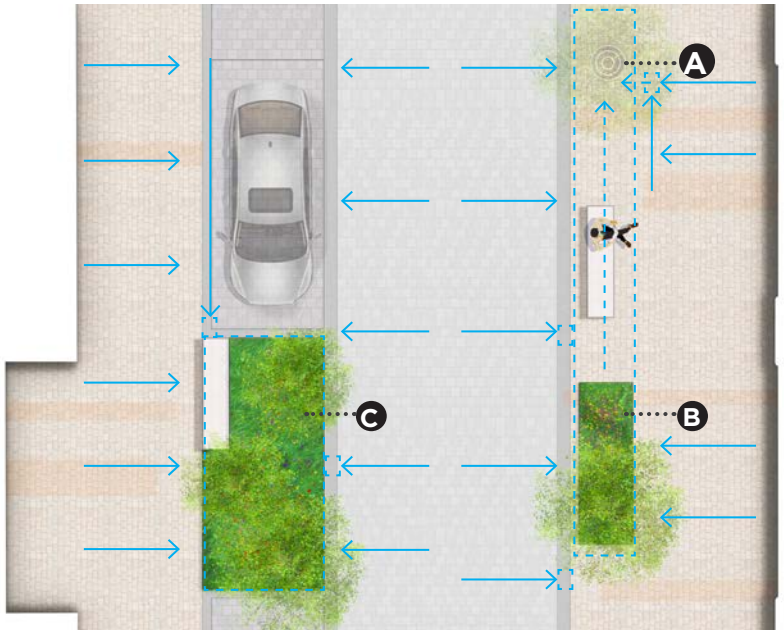
B

TYPE B:
Open tree pit with connecting trench. – Typical Soil Volume = 5.7m3 excluding trench and 7.5m3 including trench – Drained Area typically 30-50m2 per individual tree pit



C

TYPE C:
Standalone open tree pit. – Typical Soil Volume = 15m3 – Drained Area typically 60-90m2



SUDS approach



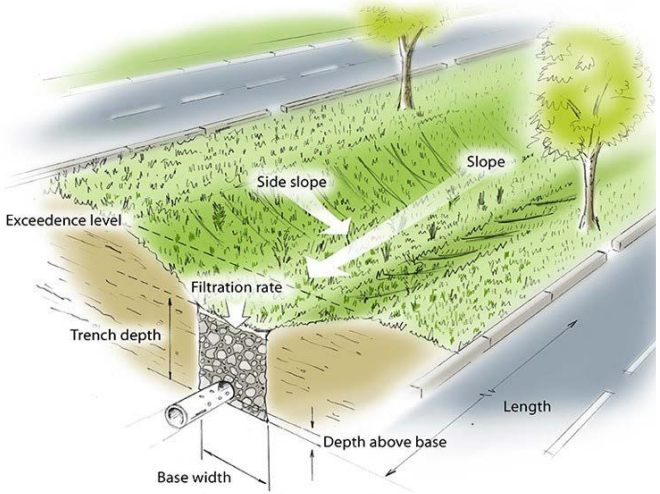
SUDS street planting

03.18 SUDS – Swales

Swales are shallow, vegetated channels designed to convey, filter, and infiltrate surface water runoff in a sustainable and visually integrated way. Swales are increasingly used as part of SuDS (Sustainable Drainage Systems) to manage stormwater locally, reduce peak flows, and improve water quality before discharge into watercourses or attenuation systems.

Typically located along roadsides, footpaths, or in communal green spaces, swales slow down runoff from impermeable surfaces, allowing water to percolate gradually into the ground or be conveyed towards attenuation ponds. The use of native grasses and herbaceous plants enhances infiltration, stabilizes soil, and provides ecological benefits.

Swales are particularly effective in Ireland's climate, where frequent rainfall requires robust and passive drainage solutions. Their design must account for local hydrology, soil permeability, and integration with site gradients. Swales also offer aesthetic and educational value, contributing to the character of residential open spaces while aligning with Irish planning policies that promote nature-based water management.







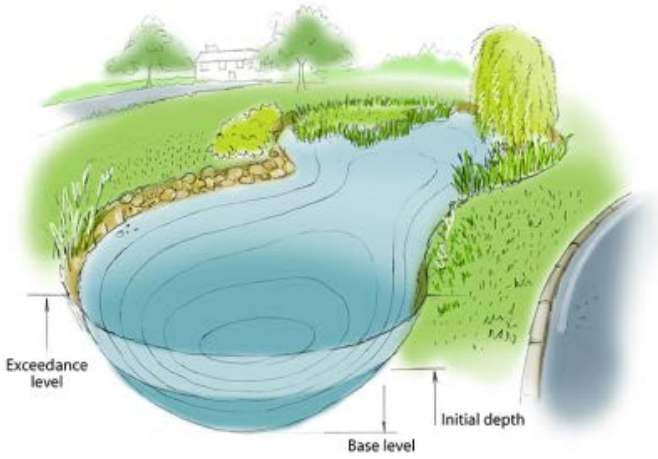




03.19 SUDS - Attenuation Ponds

Attenuation ponds are integral components of sustainable drainage systems (SuDS) in residential developments, particularly in Ireland's temperate, high-rainfall climate. These engineered basins are designed to temporarily store surface runoff during storm events and release it at a controlled rate into the receiving drainage system or watercourse. By slowing the flow of water, attenuation ponds reduce peak discharge, help prevent downstream flooding, and promote the settling of sediments and pollutants.

When well-integrated, they can contribute to biodiversity, with planting strategies that support native species and seasonal interest.

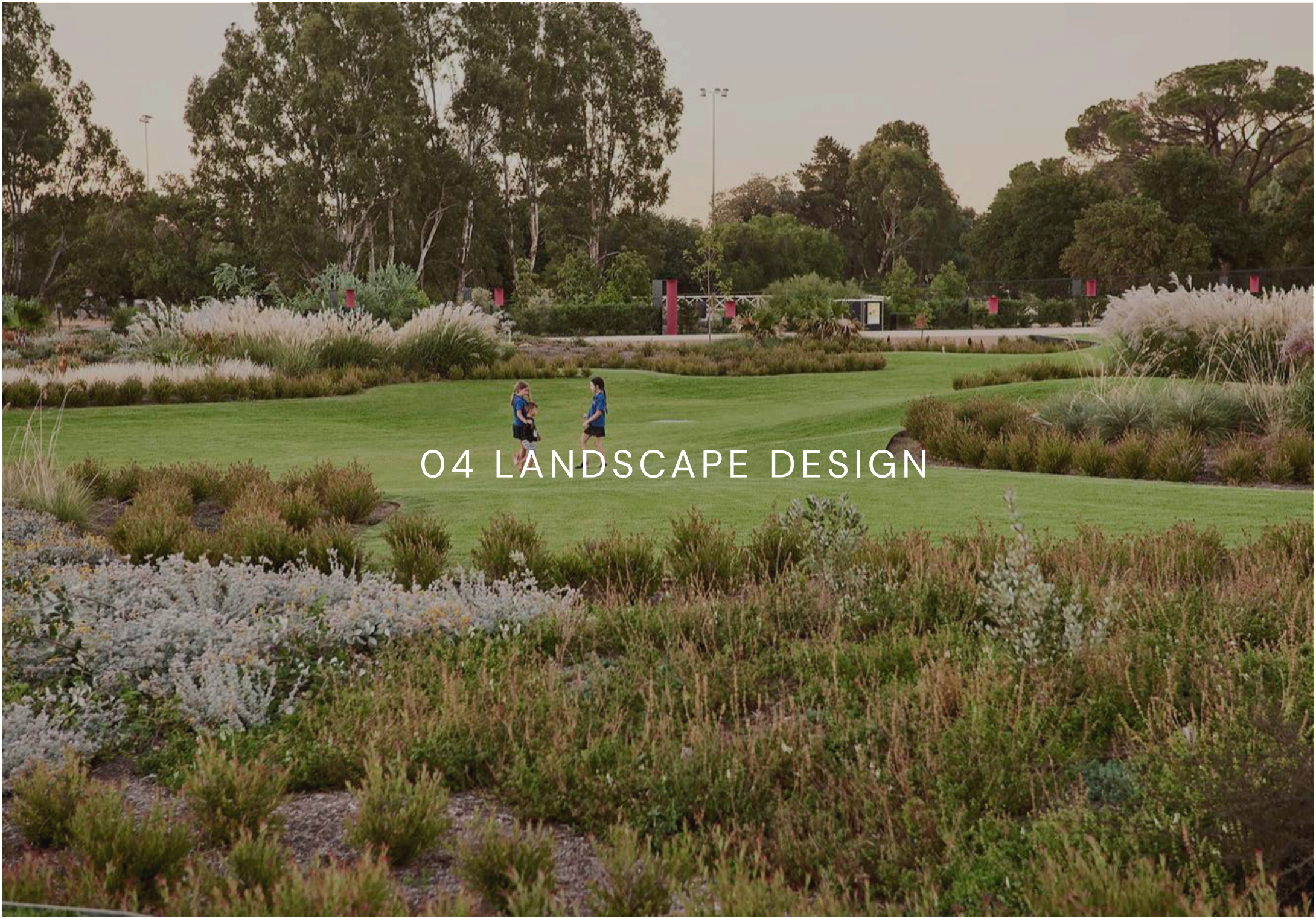












04 LANDSCAPE DESIGN

04.1 Illustrative Masterplan



The project integrates a comprehensive green infrastructure strategy to enhance ecological connectivity and biodiversity:

- **Interactive Green Zones:** Existing hedgerows are preserved and restored to provide recreational and educational opportunities while serving as vital wildlife habitats.
- **Green Corridors:** Open spaces are strategically linked to support wildlife movement and connect the site to the broader ecological network.
- **Pollinator-Friendly Landscaping:** Native planting schemes are designed to support pollinators and maintain ecological health throughout the year.

Legend:

- 01 Entrance
- 02 Existing hedgerow
- 03 Community space
- 04 Active Travel Route
- 05 Kickabout Lawn
- 06 Playground
- 07 Woodland Path
- 08 Rest Seating
- 09 Existing Structure

04.2 Landscape Zoning



1. Paths - Link



2.Green Link



3.Multipurpose open space



4. Playground



5. Seating



04.3 Landscape Character Area- Western Edge Park Sketch



Biodiverse
Planting Swathes



Scenic Trail
Route





Planted
Edging



Integrative
Seating



Fitness &
Natural Play

04.3 Landscape Character Area- Western Edge Park



A Woodland corridor connecting tranquil nature trails and engaging play

The woodland corridor weaves through the development, offering a serene escape with peaceful nature trails that invite exploration and relaxation. Along the way, vibrant play areas, an activity and kickabout lawn, and strategically placed exercise stations encourage active engagement, while integrative seating benches provide restful spots to enjoy the surrounding landscape. A scenic trail loop leads visitors to a welcoming picnic area, creating a perfect blend of recreation and tranquility within the woodland park.

Legend:

- 01 Woodland park
- 02 Play along the way
- 03 Activity lawn
- 04 Excercise station
- 05 Rest seating
- 06 Scenic trail loop
- 07 Picnic area
- 08 Existing hedgerow

04.4 Landscape Character Area- Western Activity Lawn



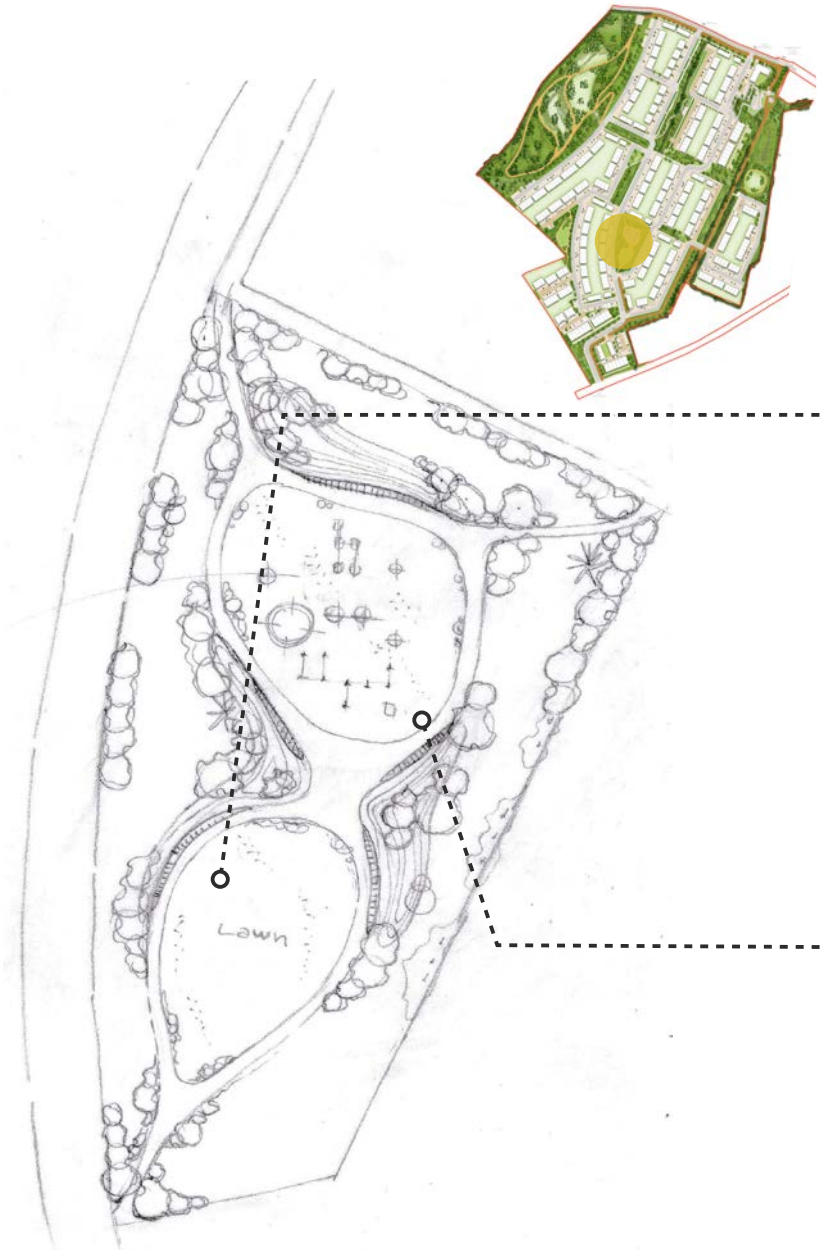








04.5 Landscape Character Area- Central Playscape





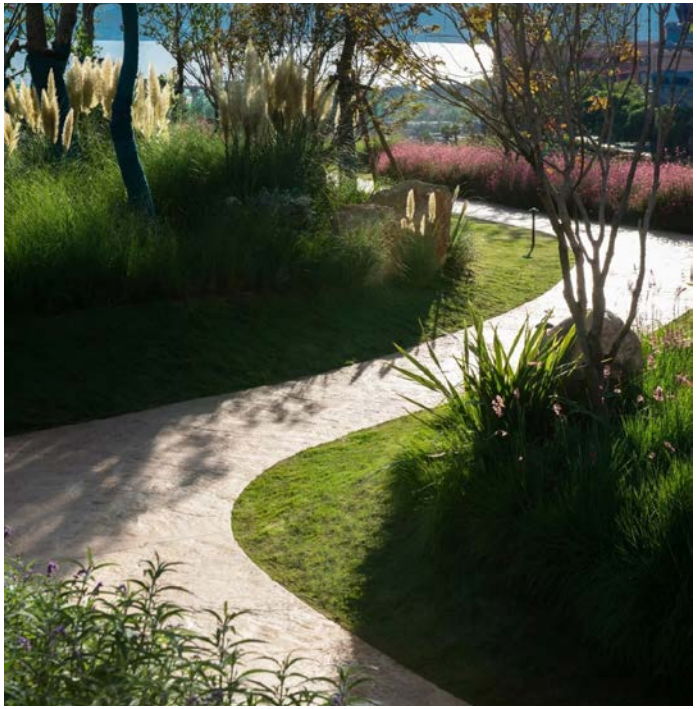








04.6 Landscape Character Area- Central Hedgerow Open Space





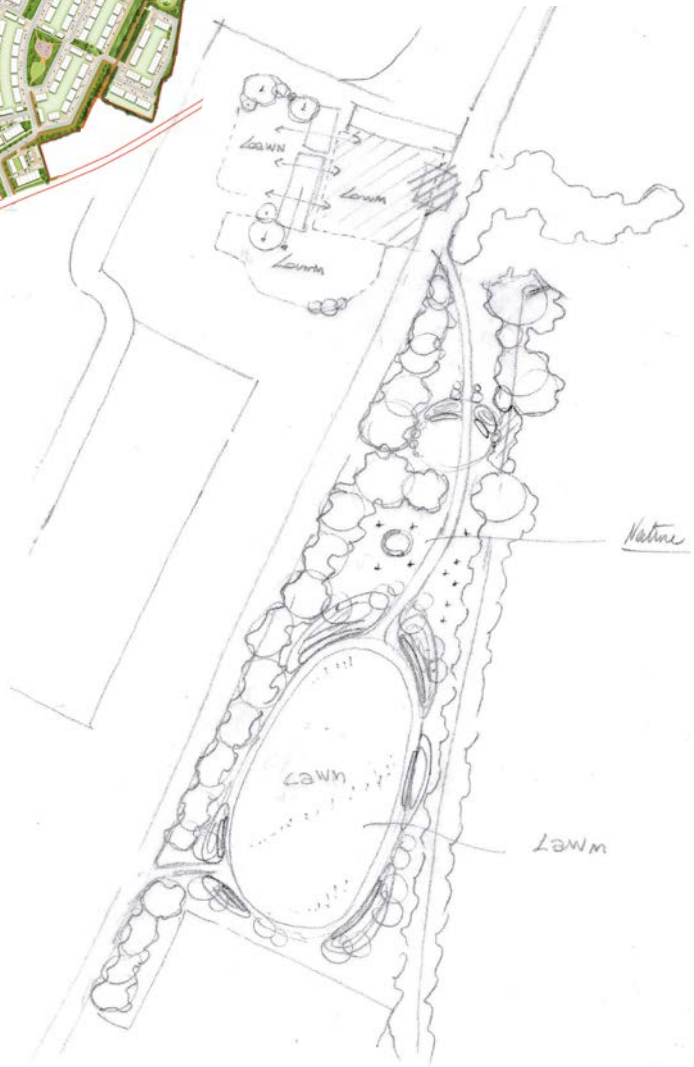






04.7 Landscape Character Area- Eastern Edge Park















04.7 Landscape Character Area- Eastern Edge Park



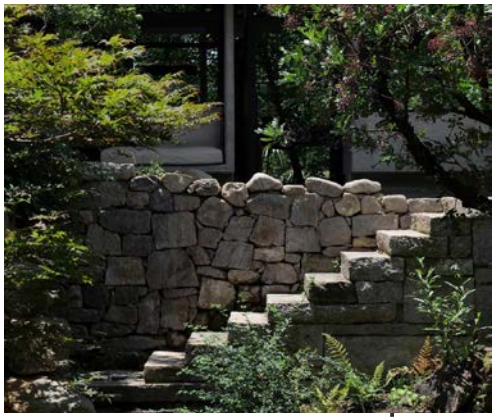
A tree-enclosed park flowing from natural play to an activated open lawn

This woodland-edged park reimagines an existing structure as a vibrant recreational community space, complete with its own lawn, nestled along a hedgerow spine. A scenic trail loop meanders from the natural play area to the active kickabout lawn, framed by planted buffer mounds and integrated seating for restful woodland play. Adjacent to the shaded hedgerow, a scenic cycleway offers an inviting route, enhancing the connection between nature, activity, and relaxation.

Legend:

01	Repurposed existing structure
02	Community hub
03	Kickabout lawn
04	Hedgerow spine
05	Rest seating
06	Scenic trail loop
07	Picnic area
08	Woodland play
09	Play along the way
10	Planted buffer mound
11	Active Travel Route
12	Attenuation Pond

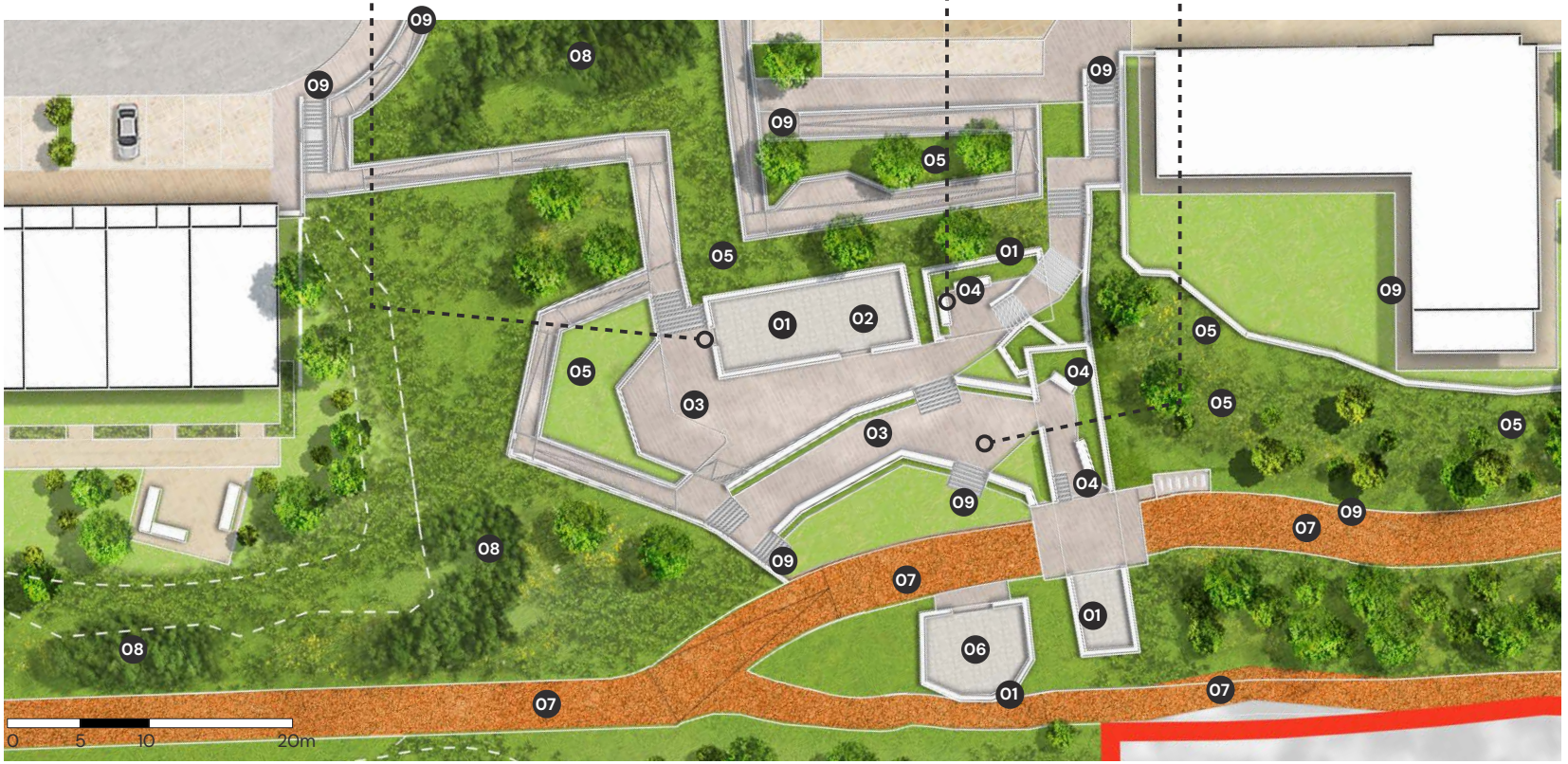
04.8 Landscape Character Area- Recreational Community Space











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Legend:

01	Repurposed existing structure
02	Community hub
03	Open plaza
04	Rest seating
05	Planted terraces
06	Bicycle fixing station
07	Active Travel Route
08	Existing hedgerow
09	Pedestrian connection

04.8 Landscape Character Area- Recreational Community Space



Legend:

- 01 Repurposed existing structure
- 02 Community plaza
- 03 Active Travel Route
- 04 Hedgerow spine
- 05 Seating
- 06 Picnic area
- 07 Bicycle fixing station
- 08 Community hub

04.8 Landscape Character Area- Recreational Community Space



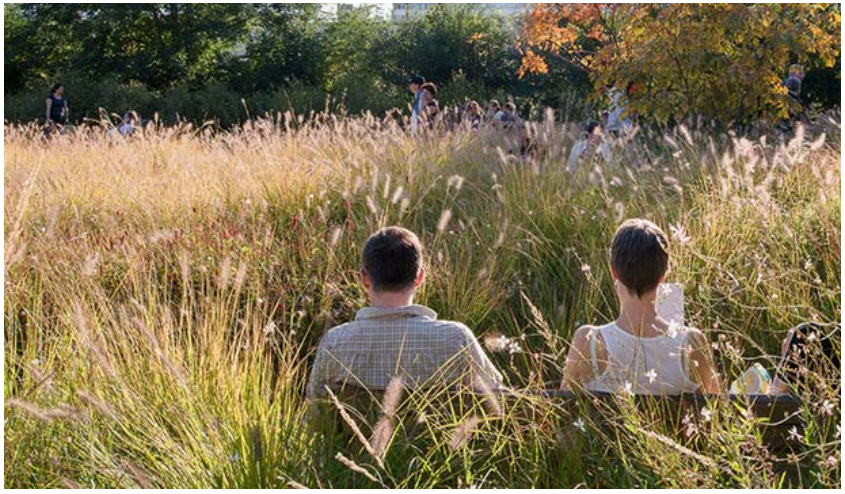
04.9 Social Spaces











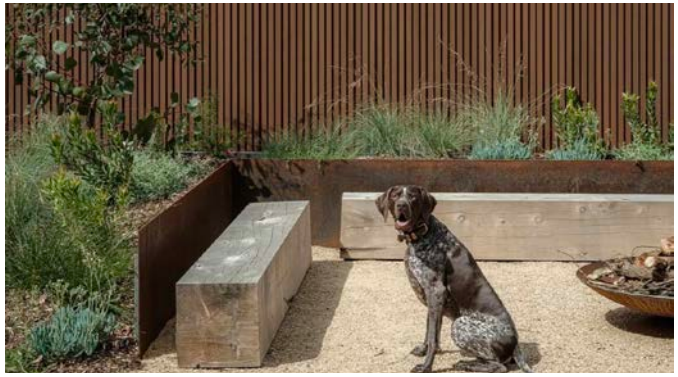


Reference Images

04.10 Outdoor Seating













Reference Images


05 SOFT LANDSCAPE

05.1 Planting Strategy

The planting strategy prioritizes biodiversity and sustainability by sourcing native trees from Tree Council-approved nurseries and selecting all planting species and wildflower seed mixes from the Irish Pollinator Plan. This ensures the landscape supports local ecosystems, enhances pollinator habitats, and promotes long-term ecological resilience.



Shade loving plants for woodlands

Woodland tree planting

+ Informed by the existing and formative tree planting and a native palette the tree planting will bleed into the site and grade out form north to south.



Shade loving plants for woodlands

Street trees + small feature trees + podium trees

+ Specimen tree planting will provide year long interest and beauty - landmarks in the landscape, to celebrate and identify with.



Shade loving plants for woodlands

Wildflower & shrub planting

+ To enhance bio-diverse credentials wildflower planting will occupy edges and large swathes of the sites periphery along with shade tolerant understory planting.



Shade loving plants for woodlands

Woodland understory & shade-loving plants

+ Woodland areas and shaded gardens will be planted with mix of shade loving plants.



Pinus sylvestris
Scots Pine



Sorbus aucuparia
Mountain Ash



Corylus avellana
Hazel



Alnus glutinosa
Alder



Quercus robur
Oak



Ilex aquifolium
Holly



Quercus petraea
Oak (Sessile)



Betula pendula
Birch (silver)



Prunus padus
Bird Cherry

05.2 Plant Palette



Viburnum lantana
Wayfaring Tree



Betula pubescens
Birch (downy)



Arbutus unedo
Arbutus (strawberry)



Juniperus communis
Juniper



Crataegus monogyna
Hawthorn



Veronica longifolia
Long-Leaf Speedwell



Anemone x hybrida
Windflower



Helianthus x laetiflorus
Cheerful Sunflower



Doronicum x excelsum
Leopard's Bane



Prunus padus
Cherry (Bird)



Sorbus hibernica
Irish Whitebeam



Hyssopus officinalis
Hyssop



Phlomis species
Jerusalem sage



Lavandula x intermedia
'Provence' Lavender



Gaillardia × grandiflora
Blanket Flower

05.3 The Pollinator Plan

The pollinator plan 2021-2025 has greatly influenced the planting palette and soft landscape strategy. This, combined with a selection of native plant species, will define the landscape design. Planting will educate and define public paths, distinguishing them from communal or private spaces.

Native Meadow

Meadows managed in the following way will allow bloom throughout the pollinator season. A further benefit is that bumblebees are provided with an undisturbed area for nesting. Over a number of years, the area will become more and more flower-rich with local species that are adapted to the site's conditions.



Annual Flowers For Pollinators

Work with local authorities to ensure a component of annual planting in parks is with pollinator friendly annual plants - single rather than double flowered varieties. You should always try to select scented, single-flowered varieties. The block planting of these can be an excellent source of food for pollinators.



Perennial Flowers For Pollinators

Incorporate pollinator friendly perennial plants into the local community to provide food for pollinators from spring through to autumn.

Pollinator friendly perennial plants are excellent sources of pollen and nectar. They are much more attractive to bees when planted in blocks rather than as single plants. Having a pollinator friendly perennial bed is



Pollinator Friendly Urban Planters

Identify some urban planters or hanging baskets where the standard annual bedding mix could be replaced by perennial pollinator friendly plants.



Flowering Trees And Shrubs

Incorporate a mix of pollinator friendly trees and shrubs into the local community that will flower throughout the season. An orchard can be a wonderful addition for pollinators and the community.

It is important to priorities increasing native plants (trees, shrubs, wildflowers) across the landscape to provide food for pollinators.



Training

Facilitate or execute local training sessions on pollinators and how to conserve them. Resources will be available for interested parties to deliver training on topics such as creating nest sites for wild pollinators, identifying common pollinator species, participating in the Alllreland Bumblebee Monitoring Scheme, and collecting, storing, and using local wildflower seed to improve areas managed as small grassy meadows in



05.3 The Pollinator Plan

Hedgerows For Pollinators

Flowering hedgerows with hazel, willow, blackthorn, and hawthorn provide food for wild bees as they emerge from hibernation in spring. Bramble is a good source of ood in the summer, and ivy in the fall. Bumblebees frequently nest in long grass around the foot of hedgerows.



Clover Lawns

Identify small areas where grass could be entirely replaced with a permanent clover mix. Red and white clovers will provide colour, and are a very important food source for bees.



Eliminate The Use Of Pesticides

Identify some instances where pesticide use may be eliminated. This could refer to streets or locations where your group is willing to take on manual weed management. The majority of herbicides are applied along edging or at tree bases where mowers cannot reach. Identify sections of south-facing edging that could not be sprayed to give solitary bee nesting sites.



Awareness

Advocate for the All-Ireland Pollinator Plan among local companies, urging them to create pollinator-friendly outdoor areas or provide sponsorship for local initiatives that support pollinators.



Bee Hotels For Pollinators

Incorporate a limited number of solitary bee nest boxes into the community to attract cavity nesting solitary bees. Bee hotels can be valuable and effective awareness-raising tools, however actions 13 and 14 are superior methods for creating nest sites. In terms of reducing the chance of disease and predators harming the bees, a number of little hotels outperforms one large one.



Signage

Install informative signs elucidating the significance of pollinators and detailing local efforts in accordance with the All-Ireland Pollinator Plan. Signage templates are available for download on the website.



05.4 Hedgerow Management

Trimming Hedgerows

Existing hedges that are of good structural condition require maintenance by periodic trimming. Teagasc recommends that hedges be cut periodically every 3-5 years, leaving the hedge as high as possible and allowing standard trees to grow up through it at intervals (www.teagasc.com, 2 February 2007).

This is supported by studies of hedgerow management on the fruiting yields of Whitethorn in lowland Britain (Croxton & Sparks 2002, Sparks & Martin 1999). There is evidence, however, to suggest that allowing Whitethorn to go for long periods without management (beyond the 3-5 year rotation) will actually increase its fruit yields, but will compromise its stock-proof structure as it becomes a tree.

It is suggested that some Crataegus is left to grow up as standards in the hedge while maintaining the rest of the hedge at the desired height. Such a diversification of the hedge structure will increase the niches available to wildlife, especially birds, and thereby enhance biodiversity.

Teagasc also recommends trimming hedgerows in a triangular shape to allow the maximum amount of light to reach the hedge base, especially on the shadier north side of a hedge, thus allowing it to remain thick, and therefore stock-proof, at the base. The consequences of allowing the woody component to grow wide at the base on the already squeezed herb species of the hedge margin have not been fully explored and this recommendation may need to be re-evaluated.



Hedgerows should not be cut during their active growth period since the practice involves the removal of the most productive parts of the hedge, thereby reducing its vigor. In addition, Sections 19-22 of the Wildlife (Amendment) Act of 2000 give directives for the protection of birds, many of which nest in hedgerows. The cutting of hedges during the nesting season may destroy both eggs and young, threatening bird populations, and the Act indicates that hedges should not be cut between the 1st March and the 31st of August. The best time to cut the hedge is in the winter months when the plants are dormant. This reduces stress to the shrubs and improves their recovery period, while avoiding disturbance to nesting birds. Unless safety is an issue, hedges do not need to be cut more than once every 3-5 years, while varying the height at which the hedge is cut will diversify its structure, improving its value to wildlife.

Management of Hedge Margins & the Hedge-Bottom Flora

All hedgerows in the should be managed at widths between 4 and 9 metres with the retention of wide margins as an ameliorating buffer between the hedgerow flora and the adjacent land use. In stock-rearing areas, this can be accomplished by fencing animals away from the hedgerow using post-and-wire fences. While this may be more difficult to encourage in tillage areas, where farmers need to cultivate a maximum amount of land to meet slipping profit gains, financial incentives such as REPS could encourage them to leave wider margins between the fields under cultivation and hedgerows. It has been suggested that this practice can reduce the effects of nutrient runoff and herbicide drift on the hedge-bottom flora

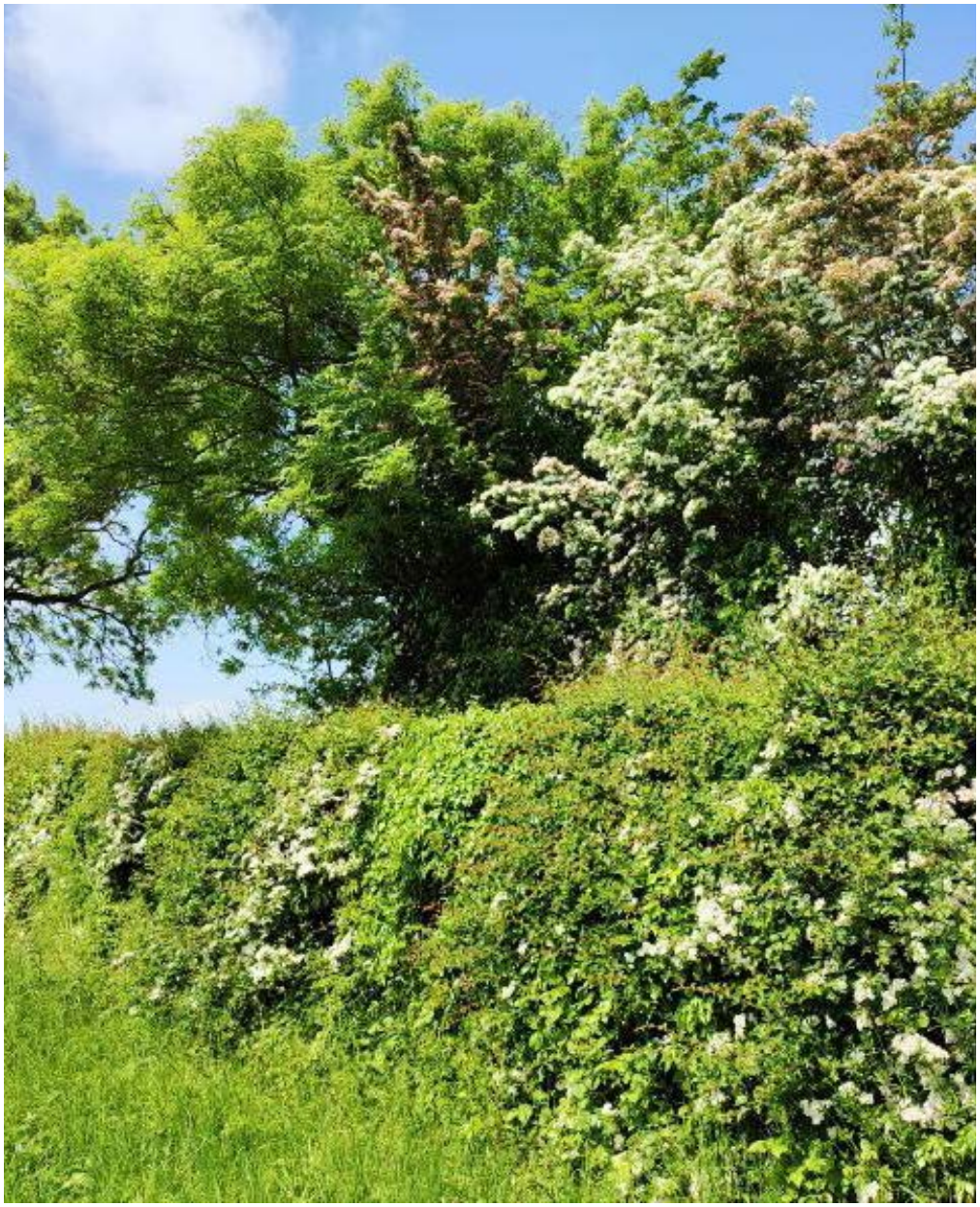
(Cummins & French 1994)

Rejuvenating overgrown or "escaped" hedgerows

Overgrown or "escaped" hedgerows have lost their function as a fence and, in stock-rearing areas, are reinforced with wire fencing. Oftentimes the fencing is strung up along the remaining hedge shrubs and trees and fixed to their stems. This practice contributes to further deterioration of the hedge. Gaps in the base allow grazing and trampling of the hedge-bank, causing further structural deterioration as well as loss of biodiversity as herbs and seedlings are trampled or grazed. This trend can be reversed, however. Fencing the stock away from the hedgerow and replanting or allowing natural regeneration to take place, coupled with sensitive management, can return the hedge to its former function as a barrier. Some of the older shrubs of escaped hedges can be cut off just above ground level or laid (provided that they will not be grazed) to produce thick new growth, or they can be left as standards, while encouraging new growth at the base.

It is not enough just to protect the hedgerows from further loss; their quality also needs to be improved through sensitive and effective management.





05.4 Hedgerow Management

Laying or Coppicing

Hedges are largely human-made features of the countryside, with much of Ireland's network established over the last 100 years. Many of the stems are at the end of their natural life span and since most hedgerow species (especially whitethorn) don't reproduce well in the shade many of our hedgerows are dying out. Also, a lot of hedges no longer fulfil their basic function as barriers to stock having become gappy or bare at the base.

Hedge laying rejuvenates the hedge by taking advantage of the broadleaf tree species' ability to re-grow after being cut back. Hedge laying is the art of cutting hedgerow stems partly through near ground level so that they will bend without breaking and will continue to grow in the shape of a stock-proof barrier. New growth comes from the cut stump rejuvenating the hedge and thickening up the base. If carried out regularly (approx. every 20-30 years), this process can extend the life span of most hedgerow species almost indefinitely.

The technique of hedge laying was widespread in Ireland in the middle of the 20th century but the practice has largely died out. The revival of interest in hedgerows through agri-environmental schemes has resulted in a resurgence in this valuable traditional country craft. The benefit of hedge laying is that it retains a nesting and foraging habitat for wildlife, whereas coppicing or cutting suspends these habitats until re-growth occurs. The cost of professional hedge laying is also shared over the years as the hedge is sequentially laid in small sections.



Hedge laying is a system that should be part of the annual (winter) maintenance. E.g. If you have 1000m of hedge suitable for laying, then every winter you should lay or get laid 50m to 100m and after 10-15 years the length is completed and you start again at the beginning. This perpetual management process protects habitats and ensures resources are available for wildlife.

It is the systematic nature of the process that ensures the both health of the hedge and that the work is not arduous, never working on stems more than 15 years old. It also maintains the skill itself as it is learned over time and handed on by the hedge managers.

It is also advised to use some of the woody material to make log piles, for example, in awkward corners or shrubby areas. The rotting wood benefits decomposers and provides a foraging and hiding spot for other wildlife.

Foulkes and Murray found evidence of past hedge-laying in their surveys of midland Irish counties, and Westmeath had the highest proportion of laid hedges, suggesting that the practice may have been well-developed that county.

The practice has been revived in Britain as an ecologically friendly means to rejuvenate an overgrown hedgerow, and this practice should be encouraged across Ireland.



The following is a rough outline or guide to laying an overgrown hedgerow but in all instances a qualified hedge layer should be employed to carry out the work:

1. Clearing

Clear around the bottom of the hedge to give yourself room to work. Get rid of any broken glass and rubbish. Clean away dead rotting timber from the hedge litter. Take note of old wire fencing – billhooks can bounce off it.

2. Selecting pleachers

Pleachers are the stems that are cut and laid. Cut out all dead wood and all growth that is out of line with the hedge. Keep sufficient spare pleachers until you are certain they are not needed. Always remove elder. It grows vigorously and suppresses other plants, but cannot be laid properly. Whenever there is a choice between young and old pleachers, lay the young ones because they regenerate better.

Try to use relatively evenly spaced pleachers.

3. Preliminary trimming

Trim excess brush from the nearside of the hedge, ie the side opposite the stock, cutting back to the line of the hedge.



4. Laying the pleachers

Stems (pleachers) are cut at the base, 70-80% of the way through, keeping the cuts as low as possible to the ground.

Stems (pleachers) are laid at an angle of 45 degrees running up the slope, producing a hedge approximately 1.2m in height. Always lay a hedge uphill if the ground slopes to get better transpiration of moisture so the sap rises and the hedge remains living. Stems (pleachers) are left attached to the cut stump by a long living hinge and woven into each othe

The first group of pleachers cannot be laid into the standing hedge alongside. They should be cut and laid out to one side so that they are available to fill the gap left when the last pleachers of the adjacent section are laid. Make sure the pleacher you are about to lay is not tangled in the rest of the hedge. Cut so that the trimmed stump will be at between 3-10cm above the ground. If you are forced to cut higher than this, cut a notch in the stump to encourage low resprouting.

Cut through far enough that the pleacher will lower into place without forcing, but leave sufficient cambium and sapwood uncut to allow the pleacher to survive.

When laying, try to keep the angle even. This is not always possible because the stems (pleachers) are multiple shapes. As stems are woven in, you have to work out the shape as you lay the hedge down. Each piece has got to fit into the piece below. So when looking at a standing stem you've got to work out the shape and where it's going to fall into the hedge. It's all got to knit together.



When you lay it down sometimes you get pieces that stick up. You can make cuts on the stems higher up to flex the hedge into the shape you want. These also act as points from which the hedge grows. Those cuts will send up shoots, thickening the hedge at the same time.

Don't lay the hedge directly down on the line of the cut base. Roll the hedge back slightly from the ground cuts. This is to allow light to get into the hedge and for the hedge to rejuvenate and re-shoot up along the cut face. If the hedge is too far forward on top of the cuts, shading suppresses new growth. Exposure of the cuts to sunlight maximises regeneration.

The hinges are fairly strong but if they get enough wind or enough movement, they will start to tear. You don't want it rocking around, so especially on a windy site, in order to hold the laid hedge in place, a gawlog or hooked pin cut from the hedge can be used. It hooks over a stem in the hedge and is hammered down to pin the hedge in place. Alternatively, stakes can be used every half metre woven in with hazel rods (binders) to hold in place. Don't tie stems down with bailer twine because it doesn't rot down and it will strangle the stems, resulting in losses.

It is good practice to leave some mature trees or straight stems (pleachers) uncut within the hedge. The structure of the laid hedge is ideal for nesting thrushes, blackbirds, and robins. Preferably smaller trees like whitethorn or cherry because large broadleaved trees such as beech oak and sycamore cause shading.

5. Staking

Stakes should be about 4cm diameter and long enough to be knocked 50cm into the ground but still project about 10cm above the top of the hedge.

Put the stakes in as you go so that the brushy tops of the pleachers can be woven in between the stakes as you lay them.



6. Binding

Binding or heathering is done on most hedges to keep the pleachers in place and strengthen the newly-laid hedge. Binders should be about

05.4 Hedgerow Management

3m long and about 25mm in diameter. Hazel is best. Sweet chestnut, elm and willow are adequate.

7. Trimming

Trim the tops of the stakes after binding a section of hedge, then trim off all the spriggy bits sticking out of the hedge on the far side and even up its overall shape.

8. Season

October to March, i.e. outside the breeding season for birds and while tree growth is relatively inactive but avoid during frosty spells.



Planting of new Hedges

Oliver Rackham has stated in The History of the Countryside that "tree-planting is not (synonymous with) conservation; it is an admission that conservation has failed (1986)." The rate of hedgerow loss in Fingal and the neglected status of those remaining, means that existing hedges will need better protection to encourage their growth and spread, while many new hedges may need to be planted in order to ensure the long term sustainability of the resource. If so, incentives will have to be made to encourage new hedge planting throughout the county as very little is being done at the present time. In the interests of conservation, native trees and shrubs of local provenance should be used when planting a new hedge, as research has found that these are most likely to prosper under local conditions with better growth, flowering, and resistance to disease (Jones, et al. 2001). The origin of the planting material should always be questioned since much of the current supply comes from Continental sources which may erode the unique genetic makeup of Ireland's indigenous populations, or even fail to thrive in Ireland's oceanic climate (Hubert & Cundall 2006).

It is essential that you purchase native trees of Irish provenance (grown from seed collected in Ireland, ideally local to your area). The Tree Council describe all 28 native Irish tree species on their website, click here to read more. Native, Irish provenance trees are better adapted to our climate and therefore have more resilience to ecological shocks and stressors. They are also more suitable as food sources because their nutritional quality and flowering time match the seasonal needs of Irish wildlife. Including pollinator-friendly trees in your species mix also benefits insects such as bees, butterflies, moths, and hoverflies. Ireland's native pollinators are in decline due to agricultural intensification (reduced flower-rich areas and increased use of chemicals), urban land-use change, and other environmental pressures.

Plant bare-root stock (whips) from October-March in a double staggered row with 30-40cm in between rows, larger trees should be planted 10-15 metres apart. Double staggered rows are wider and provide more shelter and habitat for wildlife than single row hedges.

Planting early, before January, will allow the plant roots to develop before spring. However, in clay soils, it is best to avoid waterlogged periods (this causes root rot) and wait till after frost periods to avoid frost heave (this causes root exposure).

Leave a nature-friendly margin on each side of the hedgerow, where possible. The wider and wilder your grass or wildflower margin is, the more suitable it is for ground-nesting birds and foraging wildlife. Hedge margins are essential networks for nature by improving food availability and protecting wildlife from predation.

Do not use chemical sprays and slurry as these have a negative effect on plant diversity and wildlife, counteracting the positive effect of less intensively managed hedgerows and wilder hedge margins. They reduce the health of wildlife and remove their food source, thus limiting their ability to recover from shocks and stressors and raise young.

Species to Use in Planting Schemes

Many planting schemes purporting to use native species often contain a mixture of native and exotic species, and this is especially noticeable in motorway plantings throughout Fingal. Local provenance is seldom used, and many of these plantings may fail to perform well. In the planting of new hedgerows, non-native and potentially invasive species such as Beech (Fagus sylvatica), Cherry-Laurel (Prunus laurocerasus), Snowberry (Symphoricarpos albus), and Sycamore (Acer pseudoplatanus) should be avoided at all costs. They are of limited value to wildlife, while their aggressive tendencies and heavy shading may overwhelm the native species, eventually leading to gaps in the hedgerow. As mentioned in the previous section, local provenance should be used wherever possible to protect the unique genetic diversity of the indigenous stock and to improve overall performance. The support or establishment of nurseries producing planting stock from sources within the county should be developed, perhaps in collaboration with the Irish Seed Savers Association and Crann, the Tree Council of Ireland, or Coillte, the Irish Forestry Company. Additional funding may also be developed through such a partnership.

The creation of a mixed hedge with three or more fruiting native species and a diversified structure with well-spaced standard trees tends to be the most beneficial to wildlife. An accompanying drain beside the hedge will also benefit the shrubs to be planted, as well as the hedge-bottom flora and wildlife. In areas that are waterlogged forlong periods of time, Blackthorn, Alder, Guelder Rose, Ash, Pedunculate Oak (Quercus robur) and native Willows (such as Salix cinerea) may be used, as all are tolerant of water-logging.. Listed below are native species that make excellent hedging material and their use should be encouraged in planting new hedges, including those around homes and businesses.

Native shrubs/small trees tolerant of heavy pruning (to no less than 1.5m):

Whitethorn (Crataegus monogyna)

Blackthorn (Prunus spinosa)

Spindle (Euonymus europaeus)

Holly (Ilex aquifolium)

Wild Privet (Ligustrum vulgare)

Yew (Taxus baccata)

Gorse (Ulex europaeus)

Tall, native shrubs/small trees tolerant of infrequent trimming or coppicing (to 2 metres

or more):

Hazel (Corylus avellana)

Crab apple (Malus sylvestris)

Willows (Salix caprea, Salix cinerea)

Guelder Rose (Viburnum opulus)

Wych Elm (Ulmus glabra)

Native standard trees (should be allowed to grow tall in the hedge)

Those marked with an * can also be coppiced

Alder (Alnus glutinosa)*

Birch (Betula pendula) -does not trim or coppice well

Ash (Fraxinus excelsior)* - may become a very large tree

Wild Cherry (Prunus avium)*

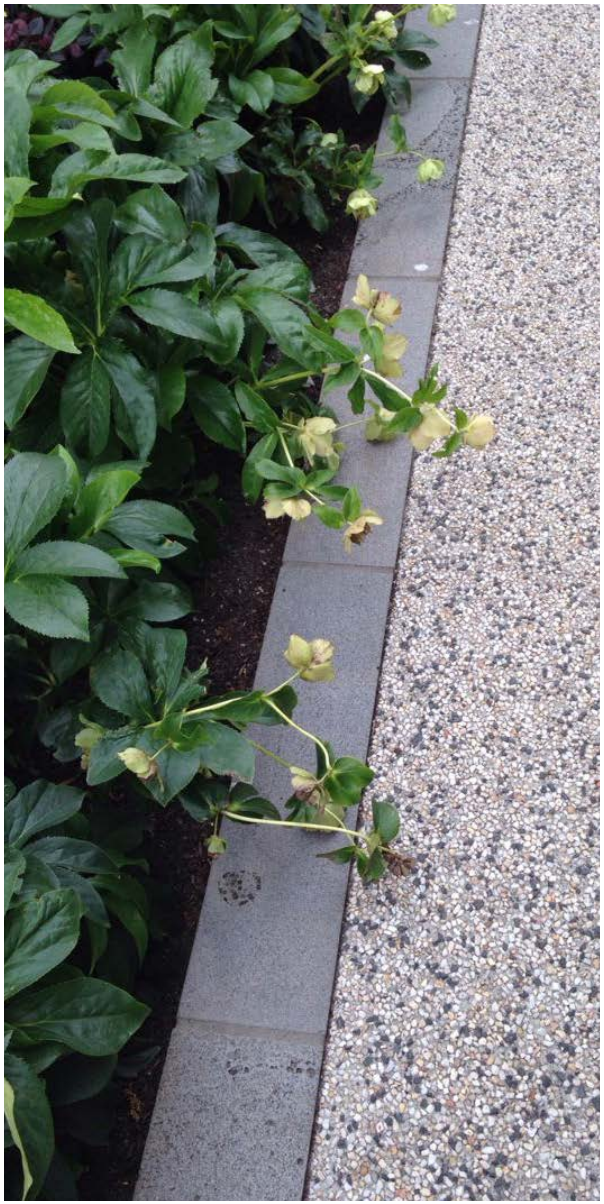
Oak (Quercus robur)* - becomes a very large tree

Whitebeam (Sorbus hibernica)*




06 HARDSCAPE

06.1 Indicative Hard Landscape Materials



Surface Finishes

The hard materials palettes have been selected to represent and respond to use and character of specific spaces. They will be durable and of high quality with patterning developed in the latter stages to indicate moments and celebrate thresholds.

High Quality Paving



Edge Treatment



Exposed Aggregate



Self Binding Gravel



Asphalt



Walls

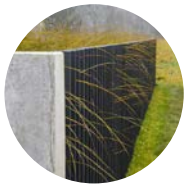
The boundaries between the site both external and internal will be of high quality and and provide a degree of visual transparency.

Walls



At raised beds

Fences



2.1m metal palisade fence

Furniture

Bins, bollards and seating have been selected as appropriate to the design language and surroundings within which they fit. these for the most part will be off the shelf products and specified accordingly.

Bike Stand



At bike parking

Bins



In pedestrian areas

Tree Grille



Trees in paving

06.1 Indicative Hard Landscape Materials

High Quality Paving to Public Realm

It is proposed to bring a sense of warmth to the streets by specifying buff coloured granite paving flags to the pedestrian areas in various sizes with a degree of variance through the grain of the stone.





Courtyard Surface Materials

Paving proposals for courtyards should have a rustic feel to them using resin bound gravel.

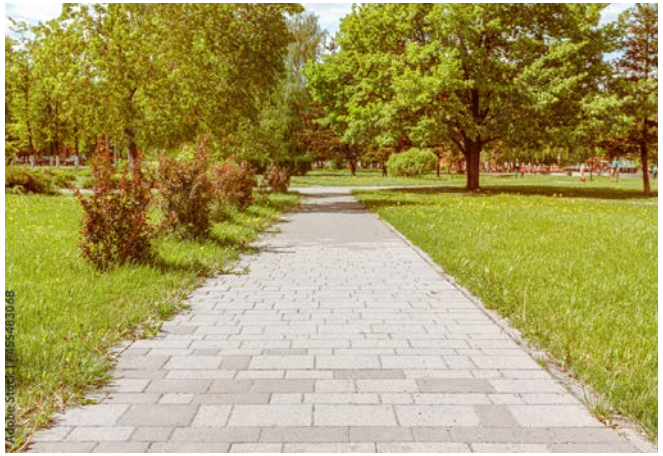




Garden Paving Material

Highly durable Material and appropriate for the setting combination with natural elements.





07 APPENDIX

07.1 Outline Soft Landscape Specification

1. Specifications for supply.

1.0 Schedule of supply:

The nursery stock material will be delivered following consultation between the Landscape Architect, landscape contractor and the selected nursery, and the Engineer. Delivery will be at all times by means of covered vehicles, and all plant material will be clearly labeled. The source of origin must be from the selected nursery as no other additional stock from other nurseries will be permitted without prior inspection and approval.

1.1 Programme of Works

The planting works shall be executed at the earliest opportunity.

1.2 Nursery stock:

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection, aphids, red spider or other insect pests and any physical damage. It shall comply with the requirements of B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock, where applicable.

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species. Country of origin must be shown in all cases for species grown from seed.

Unless otherwise stated, the plant materials shall be supplied in accordance with the following codes where stated:

1+0 1 Year old seedling
1+1 1 Year old seedling lined out for 1 year
1+2 1 Year old seedling lined out for 2 years
1+1+1 1 Year old seedling lined out for 1 year, lifted and lined out for one further year
1u1 1 Year old seedling undercut then 1 more year in seedbed.
1u2 1 Year old seedling undercut then 2 more years in seedbed.
0/1 1 Year old Hardwood cutting
0/2 2 Year old Hardwood cutting
2X Twice transplanted tree
3X Three times transplanted tree
4X Four times transplanted tree
P9 Containerised plant in 9cm pot

1.3 Species:
All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated and/or coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the contractor at his/her own expense.
Bundles of plants shall be marked in conformity with B.S. 3936: Part 1: 1965 and B.S. 3936: part 4: 1966. The nursery supplier shall replace any plants which, on leafing out, are found not to conform to the labels. Definitions of all terms used are in accordance with the following British Standards: -

B.S. No. 3936: Part 1: 1965 entitled "Nursery Stock-Trees and Shrubs"

B.S. No. 3936: Part 4: 1966 entitled " Nursery Stock-Forest Trees"

B.S. No. 3936: 1967 entitled "Specification for Nursery Stock"

2.0 Tree specifications:

Trees shall have a sturdy, reasonably straight stem, and a well-defined straight and upright central leader, with branches growing out of the stem with reasonable symmetry. The crown and root systems shall be well formed. Roots shall be in reasonable balance with the crown and shall be conductive to successful transplantation.

2.1 Standard trees shall have a clear stem 1.70m in height from ground level to the lowest branch, a minimum girth of 8cm measured at 1.00m above ground level and a total height of 2.75-3.00 m.

2.2 Light Standard trees have a clear stem 1.30m in height from ground level to the lowest branch, a minimum girth of 6cm measured at 1.00m above ground level and a total height of 1.80-2.40m.

2.3 Select standard trees shall have a clear stem 1.70 m in height from ground level to the lowest branch, a minimum girth of 10 cm. Measured at 1.00.m. above ground level and a total height of 3.0 to 3.5 metres.

2.4 Heavy standard trees shall have a clear stem 1.80-1.90m in height from ground level to the lowest branch, a minimum girth of 14 cm. measured at 1.00.m. above ground level and a total height of 4.0 to 4.5 metres. All trees shall have been undercut a minimum of three times.

2.5 Extra Heavy standard trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth of 16 cm. measured at 1.00.m. above ground level and a total height of 4.5 to 5 metres. All trees shall have been undercut a minimum of three times.

2.6 Semi-mature trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth, as specified in the Bill of Quantities, measured at 1.00.m. above ground level and a total height of min. 5 metres. All trees shall have been undercut a minimum of three times.

All standards shall be clearly labeled.

2.7 Feathered Trees 180-240cm
Feathered trees shall be not less than four years old, and shall have been transplanted at least three times. Trees of species not listed in BS 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.
Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.8 Feathered Transplants 120-150cm
Transplants shall be not less than two years old, and shall have been transplanted at least once. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.
Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.9 Feathered Transplants 90-120 cms, 60-90 cm, 40-60 cm, 30-40 cm
Transplants shall be not less than one year old. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules. Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.10 Shrubs

(1) Containerised Shrubs shall be of the size specified in the schedules, with several stems originating from or near ground level and of reasonable bushiness, healthy, vigorous and with a sound root system. Pots or containers shall be appropriate to the size of shrub supplied and clearly labeled. Shrubs shall not be pot bound or with girdled or restricted roots.

(2) Bare Root Shrubs shall be of size specified in the schedules, with several stems originating from or near

07.1 Outline Soft Landscape Specification

ground level, with reasonable bushiness, healthy, and vigorous. They shall be well furnished with fibrous roots and shall be lifted without severence of major roots. All bare root shrubs shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.11 Container Grown Conifers:
Conifers shall be of the size specified in the schedules, with one main stem originating from or near ground level and of reasonable bushiness and health, with a well-grown, root system. Pots or containers, where required, shall be appropriate to the size of plant supplied and clearly labeled. Plants shall not be pot bound, or with deformed or restricted roots.

2.12 Protection:
The interval between the lifting of stock at the nursery and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting transport shall be protected from the wind and frost and from drying out.
Protection shall include for the supply of stock to site to a suitable heeling-in/ storage area prior to planting. The landscape contractor shall allow for liaison with the site engineer to arrange the heeling-in area/ storage. The contractor shall continue to be entirely responsible for the maintenance of this stock to ensure that at the time of planting the stock complies with the requirements for the supply of nursery stock as per clause 1.0 thereof. No responsibility for the maintenance of the stock will attach to the site engineer whilst the stock is protected on site. No time limit shall attach to the period of protection.

In the event of the Landscape Architect being dissatisfied with the care and attention given to the stocks, following heeling-in, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape Contractor.

2.13 Damage
On completion of lifting of plants in the nursery, any broken shoots or severed roots shall be pruned, areas of damaged bark neatly pared back to sound tissue.

2.14 Inspections
The Landscape Architect will inspect the hardy nursery stock on the selected nursery during the execution of the works. Only plants selected and approved in the landscape contractors selected nursery will be accepted on the site.

2.15 Delivery and heeling in
All plants will be delivered on a phased basis as called up in advance in agreement with the Engineer, Landscape Architect and the appointed Landscape Contractor. In the event of the Landscape Architect being dissatisfied with the care and attention given to the stocks, following heeling-in, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape Contractor.

3.0 Specifications for site operations:

3.1 Setting out:
Setting out shall be in accordance with site meetings with the Landscape Architect, and the drawings listed in the preliminaries. No planting works shall take place when the soil /fill is in a waterlogged condition.

3.2 Finished grading:
All planting pits and topsoiled areas disturbed by the landscape contractor shall be left in an even state, with all soil clumps broken up and stones of greater than 50mm diameter shall be removed.

07.1 Outline Soft Landscape Specification

4.0 Specifications for Planting and Plant Materials

4.1.1 Staking/Protection:

2m high willow wrap to be installed around each tree for protection of bark

4.1.2 Canes:

Bamboo canes or similar approved shall be used to provide spot spraying location markers for small plants including Pinus, species. The canes are not to be attached to the plants.

4.2 Tree ties:

For standard and select standards, tree ties shall be of rubber, PVC or proprietary fabric laminate composition and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie. Ties shall be min. 25mm wide for 120cms height trees and min. 38mm for larger sizes. They shall be fitted with a simple collar spacer to prevent chafing. Two ties per tree shall be applied to standards; for staked transplants, one tie per tree is required.

Ties shall be nailed to the stake with one galvanised nail.

4.3 Protection:

The interval between the lifting of stock at the heeling-in area and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place protected from the wind and frost and from drying out.

All transplants shall be wrapped in polythene from the time of lifting to conserve moisture. Except when heeled-in, they shall be protected in polythene at all times until planted into their final position on site.

4.4 Damage:

On completion of planting any broken branches shall be pruned, areas of damaged bark neatly pared back to sound tissue.

4.5 Watering / / Fertilisers:

All bare rooted light standards and select standards shall be soaked in water overnight, on site, before planting in a liquid solution containing "Alginure" at the recommended dilution rate. Fertilisers shall conform to BS 5581: 1981. In the case of granular fertiliser being added to plantings, it must be mixed through and incorporated into the base of the planting hole and covered over in order to avoid roots of plants coming in direct contact.

4.6 Setting out:

Setting out shall be in accordance with site meetings with the Landscape Architect. Transplants in mixtures shall be planted in staggered rows. Species shall be planted in groups, as indicated in the planting drawings.

No planting shall take place until all planting holes (with ameliorants) have been inspected and approved by the Landscape Architect, or a person appointed by him as a representative, to ensure accordance with the specifications. No planting shall take place when ground conditions are frozen or waterlogged. All planting holes shall be opened and closed on the same day.

4.7 Tree planting:

Trees shall be planted at the same depth as in the nursery, indicated by the soil mark on the stem of the tree. They shall be planted in the centre of the planting pit and planted upright. Stones or other rubbish over 75mm shall be removed. Supply and drive the stake 800mm into the ground for standards, 500mm for other transplants. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.1.Select Standards/Standards

Excavate tree pits to 800mm x 800mm x 600mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m.(equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.2 Heavy and Extra Heavy Standards

Excavate tree pits in soft landscape to 1000mm x 1000mm x 800mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.2 Semi-mature trees

Excavate tree pits to 1200mm x 1200mm x 1000mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.7.3.Light Standard Trees

Excavate tree pits to 500mmx500mmx500xx deep, or as approved. The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.8 Feathered Trees 180-240cm, container grown conifers (>2l)

Excavate tree pits to 400mm x400mm x 400 mm deep, or as approved (slit or notch planting are not acceptable planting methods). The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. Trees shall be planted at the same depth as in the nursery and backfilled with compound fertiliser 0.10.20 at the rate of 50gm per tree and 0.020m3 of Mushroom Compost or similar approved. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

4.9 Feathered Whips 120-150 cm:

Excavate tree pit to depth of 300mm x 300mm x 300mm deep, or as approved (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. The base to be broken up to a depth of 60mm and glazed sides roughened. Whips to be planted at same size as in the nursery. Apply 60gm 0.10.20 and 0.020m3 of Mushroom Compost or similar approved.per tree pit to plants. Stakes 1.2m high x 37mm dia. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position. Drainage layer to specification CL505.

07.1 Outline Soft Landscape Specification

4.10 Feathered Whips and Transplants 90-120cm, 60-90 cm, 40-60cm, 30-40cm, container grown conifers (<2l size) and container grown shrubs (<2l size):

Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. Apply 30gm 0.10.20.per planting pit. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.11 C. G. Shrubs / C. G. Wall Shrubs / C.G. Climbers:

Excavate planting hole to a depth of 300mm x 300mm x

300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened. The following products are to be supplied and incorporated in to the bottom 100mm of topsoil at the base of the planting pit and in to the topsoil for backfilling around each plant: (1)Seanure soilbuilder as supplied by Farmura @ 1.5Kg per cu.m of topsoil, (2) clean and friable green waste compost @ 25 Kg per cu.m of topsoil and (3) Sierrablen Flora 15:9:9 slow release fertiliser @ 70 grams per m2 Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

4.12 Grassing

All grass areas to be ripped with a tractor mounted tine prior to rotovating. The contractor shall grade off all areas to smooth flowing contours, removing all stones greater than 10mm diameter and tip off site. All hollows to be filled in. Roll all areas with a roller as approved. Following the completion of final grading and raking, the area is to be left fallow for a period of 14 days. Spray with 'Basta' at recommended rates, and seed with fine grass mix at a rate of 35gr/Sq.m together with fertilizer 10:10:20 at a rate of 50gr/Sq.m use Coburns Irish premier low maintenance mixture or other as approved by the Landscape Architect.

4.12.1 Grass cutting

Grass cutting shall be carried out during the three year maintenance period and is defined into three categories:

4.12.2 Regular grass cutting

Shall be carried out to the frequencies indicated in the Bill of Quantities. Attention to neat and tidy cutting shall be required to all areas. Sightlines, as set out with the Engineer, at junctions and roundabouts must be kept clear of vegetation at all times.

GENERAL

Upon completion of planting, all pits shall be raked over lightly to leave an even surface and neat appearance. All stones greater than 50mm dia. to be removed. Provision should be made for the watering of light and select standards during periods of prolonged drought in the first year following planting.

4.13 Inspections:

The Landscape Architect will inspect the site with the Landscape Contractor during the execution of the works and following maintenance visits.

4.14 Presentation of certificates:

The Landscape Contractor shall present for the Landscape Architect's inspection, all seed and fertiliser bags, together with their markings. If requested, the contractor shall furnish the Landscape Architect with receipts of purchase for these respective materials.

4.15 Spraying:

1) Following planting of embankments, slopes etc., weed free circles to be formed around individual plants, as directed, using an approved broad-spectrum contact herbicide, as approved by the landscape architect, in mid-spring following planting. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. In areas where grass is excessively long, such grass will be strimmed off and collected prior to spraying. The contractor shall be responsible for keeping the ground (1m diameter circle) around all planted material weed free by means of herbicidal application, using approved sprays, during the course of the contract. Weeds to be removed include grasses ,broad-leaved annual and perennial weeds and all noxious weeds.

2) Selective spot spraying will be carried out to all grassed areas, whether planted or unplanted through the application of contact herbicide to control broad-leaved annual and perennial weeds, including thistle, dock and ragwort. Contact herbicide to be approved by the landscape architect prior to application. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. The contractor shall allow for the removal of gorse by cutting, as required prior to spraying to ensure its eradication from all grassed areas for the duration of the contract.

3) The boundary hedgerows shall be kept weed free by herbicidal application by forming a 300mm wide spayed strip along the full length of each respective hedgerow. Approved herbicide (broad-spectrum contact herbicide) to be applied using controlled drop applicator containing a dye to indicate areas sprayed. Spraying of planted areas on roundabouts is also included in this spraying application.

4) Such routine spraying (1, 2 and 3 above) shall be carried out during maintenance visits over the three-year period. No spraying shall take place during adverse weather conditions or at times not recommended by the manufacturer.

4.16 Cutting back:

Plants for cutting back/tip pruning shall be cut back after inspection by the Landscape Architect. This work to be carried out initially following planting for plants suffering from wind damage.

4.17 Mulching

Mulching may be considered as an optional factor that may be implemented. Mulch shall be from coniferous trees. It shall be shredded, but not pulverised, so that no dimension exceeds 75mm. Bark shall have been composted for a min. of 3mths. In the case of areas requiring mulch the depth of bark shall measure 30 mm.

4.18 Ground finish:

Upon completion of planting, all ground finish shall include for the removal of stones greater than 50mm excavated during the course of the digging for planting purposes.

07.2 The Pollinator Plants – Maintenance

Perennial planting schemes

Pollinator friendly perennial plants are excellent sources of pollen and nectar. They are much more

attractive to bees when planted in blocks rather than as single plants. Having a pollinator friendly

perennial bed is an excellent way to provide food for pollinators across their lifecycle.

Perennials can be used to great effect in traffic islands and public spaces, providing a strong visual

impact and giving a good display of flowers over a long period. Pollinator friendly perennial planting

should be designed to provide a food source from spring through to autumn. In addition they are:

- Low maintenance

- Easy to establish

- Have strong visual impact

- More cost effective than bedding schemes over the long term

- Less maintenance than lawn mowing

- Provide a natural style of planting

- Provide habitat and nesting materials for birds and insects

Maintenance:

Good ground preparation is essential to minimise maintenance in the future.

- Removal of all root weeds before planting such as scutch grass, bindweed etc. will reduce

weeding later on. Sometimes it is best to leave the site fallow for a season to sort out any

issues.

- The soil must be well drained and not compacted, and have good nutritional content.

Organic material can be added. There is usually no need to add fertiliser.

- Plants ideally should contain a slow release fertiliser in the pot and should be watered well

before planting.

- In the first few months after planting beds will have to be weeded by hand as hoeing can

damage spreading plants. This should be done regularly, maybe three or four times in year

one depending on the weed population. When the perennials have established and provided

dense cover, the frequency of weeding can be reduced.

- In year two and onwards, weed the beds at the beginning of and end of the growing season,

and spot check for the odd weed in between.

- Watering may have to be taken into consideration during dry spells.

- Leave dead stems on plants for the winter as they provide protection for the plants, offer

food and habitat and nesting materials for wildlife, prevent weed seeds from germinating

and increase the organic matter.

- The dead foliage can be removed in spring by mass pruning to approx. 10cm height when

there is new growth appearing. Some plants like Grasses & Thymes will look good without

pruning back.

- Organic matter like compost can be added to keep the soil in good condition.

Planting time:

March-April is the best time for planting as the plants will have plenty time to root in before

summer. If planted in June then weeds will have already established and they will be easy to

remove, but the plants have less time to root in and provide ground coverage.

Life span of perennial planting:

The life span of a well planted and well maintained perennial scheme is 10 to 12 years, maybe

longer, which is about the same as a shrub bed. Small amount of replacements may be required

depending on the site but in general the plants are trouble free.

Thanks to Young Nurseries who voluntarily provided suggested perennial plant lists and example

costings.

Best Practice in the Use of Pesticides

In additional to the honeybee who lives in hives, we also have 20 different types of bumblebees and

77 different types of solitary bees in Ireland. Bumblebees and solitary bees live entirely in the wild.

We need healthy populations of all these bees to carry out pollination if we want to have

wildflowers in the landscape, be able to grow our own fruits and vegetables, or buy affordable,

locally grown apples or strawberries in our shops. Bees and other pollinators can only survive in a

landscape that provides them with food, shelter and safety throughout the year. Already, one third

of our 98 bee species are threatened with extinction from Ireland.

Insecticides pose the greatest direct hazard to insect pollinators. However, herbicides use is having a

much greater negative impact on pollinators because it is so widely used.

Herbicides, Fungicides and Plant Growth Regulators typically have little or no toxicity to pollinators,

but many of the plants we spray as weeds are vital sources of food for pollinators, especially in early

spring. Pollinators need a range of flowers to feed on from spring through to autumn. The overuse of

these chemicals is making it very difficult for them to find enough food to survive in our landscape.

Pesticides should be used sparingly and only when absolutely necessary, such as in the treatment

of invasive species like Japanese Knotweed

Do's

- Check the label and select pesticides that are less harmful to pollinators

- Always read, understand and follow the product label instructions fully

- Treat only the target area

- Spot treat rather than use blanket sprays

- Follow the buffer zone instructions on the product label

- Leave areas of pollinator-friendly habitat free from all pesticides. These include areas of

clover or wildflowers, the base of hedgerows, and any natural areas.

- Minimize spray drift to non-target areas by:

o Using equipment that reduces drift

o Checking the weather forecast before application and be mindful of changing

conditions.

o Ensure that you spray when the wind is blowing away from beehives and pollinatorfriendly habitat.

Don'ts

- Do not apply pesticides to bees or other pollinating insects

- Do not spray flower-rich areas (including weeds) when flowers are in bloom and providing

food for bees. Plants that we might consider weeds like dandelions, vetches, clovers, deadnettles and knapweed are important food sources as they provide high quality pollen and

nectar for bees.

- Do not apply pesticides to areas that have been identified as important nesting areas for

wild pollinators

- Do not apply pesticides to standing water.

07.3 Outline Hard Landscape Specification

Paving & Kerbs

Footpaths

General: Public footpaths, roadways, kerbs etc. shall be constructed in accordance with the requirements of the Dublin City Council Roads Dept.

Accuracy of Levels and Alignment: The levels of paths and paving shall be carefully set out and frequently checked. All care shall be taken to ensure that the correct cross sections are maintained. The finished face of paths shall be formed so as to provide adequate fall and satisfactory run off to surface water outlets, gullies, etc. Cross-falls of paths shall be carried without break across verges and kerbs to prevent ponding of water between back of kerb and

path.

Sub-Base: Granular material shall comply with Clause 804 of the D.o.E. Specification for Roadwork's and shall be spread uniformly over the formation and compacted by vibrator roller. Rolling shall continue until there is no movement under the roller. The finished surface of the compacted sub-base shall be parallel to the proposed finished surface of the footpath. The surface levels for each layer shall not deviate from the design levels by more than +15mm or –15mm.

For sub-base thickness in paved areas see area engineers spec. and attached following schedule. Each contractor shall do all necessary tests to ensure a well compacted, plain even surface on all areas with traffic movement. If paving shows settling after 1 year which normally is related to an insufficient depth and compaction of the sub-base the contractor shall rebuilt the failed area to his own cost.

Use of Surfaces by Construction Traffic:

Constructional traffic used on pavements under construction shall be suitable in relation to the courses it traverses so that damage is not caused to the sub-grade. Where damage is caused to the formation of the sub- grade in strength or level the damaged area shall be excavated for an area and depth which shall be determined by the Architect and this area shall be filled to the required levels with crushed rock of 50mm maximum size. The degree of compaction for this area shall be the same as that specified for the remainder of the formation. All this excavation and making good of damaged areas shall be carried out at the expense of the Contractor. Where damage is caused to the sub-base, the damaged area shall be made good as noted above, using the material of which the sub-base is composed. The wheels or tracks of plant moving over the various pavement courses shall be kept free from deleterious materials.

Modular Paving

Concrete Pavers Precast concrete pavers shall conform to the requirements of BS 6717 Part 1.

Ensure that sub-bases are suitably accurate and to specified gradients before being laid.

Sample: Before placing orders submit representative samples for approval.

Ensure that delivered materials match sample.

Laying Generally:

1. Laying Specification

1.1 Paving blocks/bricks shall be laid to the requirements of Part 3: 1997, BS 7533,

except that the lip onto gully gratings is modified to 5 - 6 mm.

Note, in particular, the following requirements of Part 3.

i. The difference in level between two adjacent blocks shall not exceed 2 mm.

ii. The finished pavement surface shall not deviate more than 10 mm under a 3m

straight edge.

iii. The accuracy of cutting a block should be such that the resulting joint should not

exceed 5 mm.

iv. The surface course should be between

(a) 3 - 6 mm above drainage channels

(b) 5 - 10 mm above gullies (*BRL modify this to 5 - 7 mm above gullies to

reduce "trips")

v. The surface course should be inspected soon after completion and at regular

intervals thereafter - additional sand should be brushed in where necessary.

1.2 The surface course for chamfered units should be 3 - 5 mm above the kerb to

facilitate surface drainage. The surface course for non-chamfered units should be 2 mm above the kerb to facilitate surface drainage.

1.3 When paving units need to be trimmed, pieces with a dimension less than 50 mm

should not be used.

2. Drainage Channels

2.1 Where paving blocks are used in a channel, they shall be laid on freshly mixed moist 3:1 sand-cement mortar. The mortar should have thickness between 10 mm and 40 mm. Vertical joints should be filled with 3:1 wet sand-cement mix.

2.2 Mortar, which has been mixed for over 2 hours, should be discarded.

2.3 The mortar should be laid on a previously prepared concrete base as per construction drawing detail. Select blocks/paviors vertically from at least 3 separate packs in rotation, or as recommended by manufacturer, to avoid colour banding. Lay blocks/paviors on a well graded sand bed and vibrate to produce a thoroughly interlocked paving of even overall appearance with sharp sand filled joints and accurate to line, level and profile. Refill joints once a week three weeks after first fill. Commencing from an edge restraint lay blocks/paviors hand tight with a joint width of 2-3mm for pedestrian use and 3-5 mm for areas with traffic. Maintain an open working face and do not use mechanical force to obtain tight joints. Place blocks/pavers squarely with minimum disturbance to bedding. Supply blocks/paviors to laying face over newly laid paving but stack at least 1 m back from laying face. Do not allow plant to traverse areas of uncompacted paving. Continually check alignment of pavers with string lines as work proceeds to ensure maintenance of accurate bond.Infill at edge restraints as work proceeds. Wherever the type of bond and angle of edging permit, avoid very small infill pieces at edges by breaking bond on the next course in from the edge, using cut blocks/pavers not less than 1/3 full size. Cut stones shall be rectangular or trapezoidal; the smallest point shall be a minimum of 35mm. (May be pavers have to be turned by 90 deg.)Half stones shall be cut at manufacture. Thoroughly compact blocks/pavers with vibrating plate compactor as laying proceeds but after infilling at edges. Apply the same compacting effort over the whole surface.

Do not compact within 1 m of the working face. Do not leave uncompacted areas of paving at the end of working periods, except within 1 m of unrestrained edges. Checks paving after compacting first few metres, then at frequent intervals to ensure that surface levels are as specified; if they are not, lift blocks/pavers and relay. Brush sharp sand into joints, revibrate surface and repeat as required to completely fill joints. Make sure that paving is held by a kerb on both sides before vibration to avoid uneven joints. Avoid damaging kerb haunching and adjacent work during vibration. Do not begin vibration until kerbs have matured. The paving pattern will be stretcher bond, make sure that the joints will be in straight line after vibrating. Also ensure joints

07.3 Outline Hard Landscape Specification

are off equal width. The block pavement shall have a surface regularity/ flatness tolerance of less than 10 mm under a 3 m straight edge.

Sample: Before placing orders submit representative samples for approval.

Ensure that delivered materials match sample.

Precast Concrete Flags

Pre-cast Concrete Flags:

1. Precast concrete flags shall be laid to the requirements of BS 7533 Part 4.

Note the following selected items from BS 7533, Part 4.

•The difference in level between two adjacent flags should not exceed 3 mm.

•The top surface of the paving units should stand 3 - 6 mm above the drainage channel.

•A 30 - 50 mm (compacted thickness) of the sand laying course is given as suitable (for narrow joints)

2. Flags should be laid with narrow joints (2 - 5 mm). Joints should be filled with dried sand (conforming to table 4 of the code), or as determined by the Landscape Architect.

KERBS

Kerbing General: Kerb radii shall be in accordance with Architects and Engineers drawings. Use radius kerbs for all new kerbs.

Laying Generally:

Natural stone and precast concrete kerbs shall meet the requirements of BS 435 and

BS 7263-1.

1. Precast concrete kerbs shall be laid to the requirements of BS 7533, Part 6.

2. Units shall be laid on fresh concrete or mortar bed and adjusted to line and level.

3. Concrete for foundations and haunching shall be to BS 5328.

4. Bedding mortar shall be freshly mixed, moist 3:1 sand-cement between 12 and 40

mm thick.

5. Kerbs shall be backed with concrete as per drawing.

6. Radius kerbs shall be used on radii of 12 m or less.

7. Kerbs should not deviate from the required level by more than 6mm.

8. Kerbs should not deviate by more than 3 mm under a 3 m straight edge.

9. Open-jointed kerbs should have joints of 2 - 4 mm wide.

Mortar jointed kerbs should have joints of 7 - 10 mm wide filled completely with 3:1

sand-cement mortar, and finished to give a smooth flush joint or as specified by the

Landscape Architect.

07.4 Programme for Implementation, Maintenance + Defects Period

5.0 Maintenance:

5.1 Period:

The Contractor shall be responsible for aftercare of the completed works for an agreed amount of time from the date of completion of planting. The period is to be negotiated btween Hones (The Developer) and Dublin City Council.

5.2 Organisation:

The aftercare programme will be organised as follows:-

(1) Scheduled operations, in whose timing the contractor will be permitted some flexibility and which will be the basis of payment to the Contractor.

(2) Performance standards, which the Contractor is required to meet at all times, and on which his performance will be assessed.

(3) Critical dates, by which time scheduled operations, shall have been completed, and at which performance will be assessed.

5.3 Performance standards:

Shrub, woodland and hedgerow planting to be maintained in accordance with specifications e.g. spraying, firming, tree tie adjustment. Weeds shall not cover more than 20% of the ground surface within planting areas and the maintained 1m diameter weed free circles at any time, and neither shall they exceed 100mm in height. Weeds shall be treated before they establish.

Within grass areas noxious and competitive weeds shall not be allowed to establish and all perennial weeds shall be spot treated at each maintenance visit, 3 times per year.

5.4 Watering:

The contractor is responsible for the survival of all plants during the maintenance period. Apply water to moisten full depth of root run using proprietary irrigation system. Avoid washing or compaction of the soil surface. The Landscape Contractor is responsible for informing the Landscape Architect if the plants require watering. A minimum of 16 no. waterings year1, 8 no. year 2, 4 no. year 3. Prior notification to the landscape architect and a record of attendance will be requested for each visit. Spot checks will be made to ensure full compliance with this condition.

5.5 Programme

Year One (After Planting):

5.5.1 By end of May (Year One):

Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Strim long grass prior to spray application. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. Tip prune, firm plants. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.

Critical date: 30 May (Year One)

5.5.2 By end August (Year One):

Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.

Critical Date: 30 August (Year One)

5.5.3 October (Year One):

Remove dead plants after Landscape Architect's inspection.

5.5.4 November (Year One):

Replacement planting. Tree care shall mean pruning deciduous trees including those of hedgerow form when dormant to promote open frame works in the crown. Remove all suckers and dead branches, and branches that are encroaching on to footpaths should be cut back to point of branching.

5.5.5 By end December:

Application of herbicide agreed with Landscape Architect to all planting areas. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water extra heavy standard trees, standard trees.

Critical Date: 30 December (Year One).

5.5.6 Year 2

As year 1.

5.5.7 Year 3

As year 1 . Hedgerow to be fully pruned at end of season.

5.5.8 Sweeping and Cleaning

Sweeping shall mean sweeping of the footpaths, playing courts, car parks and the schools road network and removal of all grit rubbish moss and leaves, keeping the hard landscaped areas of the site in a neat and tidy manner. Number of sweepings per annum -12no.

Cleaning shall mean the removal of paper, plastic bags and all other rubbish from grassed areas, roads, car parks, playing courts, shrubbery's, hedging etc. or any part of the school grounds. This operation shall be carried out twice a month.

All dirt and rubbish to be removed off site to a tip to be provided by the Landscape contractor.

Autumn leaves shall be swept on a weekly basis from end of October to mid-November (three weeks). Any additional cleaning and sweeping deemed necessary, during the year, and requested by the school for any part of the schools grounds will be paid for at a pro rata basis to the rates for the programmed maintenance schedule.

5.5.9 Other Maintenance Works

All grassed areas are to be edged 3 times a year using a machine and are not to be sprayed.

Carry out any other maintenance to ensure the works are kept in a satisfactory state during the defects liability period.

5.6 Grass Cutting

Grass cutting shall be deemed to include for:

[a] Removal of lodged grass.

[b] Removal and disposal of grass cuttings from adjoining roads and paving.

[c] Removal and disposal of stones and other obstructions from area of grass to be cut.

The pitches and other high profile grassed areas, eg. the schools entrance are to be Fine cut. Fine cutting shall mean mowing to 25mm high. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of The Department Of Education and Science. A rough schedule is as follows-

March: 1cut

April: 3 cuts

May: 4 cuts

June: 4 cuts

July: 4 cuts

August: 4 cuts

07.4 Programme for Implementation, Maintenance + Defects Period

September: 4 cuts

October: 4 cuts

November - February: 1 cut

Total 29 cuts

Fine cutting shall be deemed to include for grass cut to 25mm high evenly over the whole area, with cuttings left evenly spread over the surfaces. Grass not to exceed 50mm between cuts.

Other grass areas of which are less high profile are to be cut 16 times a year. These will include the grassed areas around the woodland areas, in between the pitches and any grassed area hidden from the main road by the school.

Areas indicated as wildflower mix shall be cut three times per annum. Cuts shall be carried out at specified times as agreed with landscape architect and recommended by the wildflower seed producer. Remove cuttings after each cut and remove offsite to tip.

Leave cuttings evenly spread. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of the Board Of Management.

At every second grass cut, grass shall be trimmed from around the base of walls and fences, back of footpaths and kerbs, litter bins, sluice valves and hydrant markers, trees, shrubberies poles and public lighting columns etc., and kept in a neat and tidy condition.

07.5 Maintenance Schedule

This program is guideline only and times of operations may very on approval by landscape architecture.

ONGOING REQUIREMENTS:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Lawn grass cutting (min 24 cuts)		*	**	**	***	***	***	***	***	**	**	
Edging to lawn grass areas				*								
Rough Grass							*					
Fertilizer application to lawn grass area					*					*		
Native Hedgerow pruning/cutting (once every tree years,)		*										
Deciduous Hedge pruning/cutting									*			
Evergreen Hedge pruning/cutting		*							*			
Shrubs pruning and feeding				*		*			*			
Weed control of hedge and shrub planting area		*	*	*	*	*	*	*	*	*	*	
Tree pruning											*	*
Removal of tree stakes (3-5 years)				*								
Mulch top-up tree circles/squares						*				*		
Watering of new trees (or after 3 weeks of no rain)				*	*	*	*	*				
Trimming of scrub areas												*
Weed control of scrub areas				*					*			
Application of residual weed killer to footpaths, cycle paths				*								
Litter clearance/pick up	***	***	***	***	***	***	***	***	***	***	***	***